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Federal Building, St. Paul, Minn., Monday, April 12, 1909.
The hearing was resumed at 10 o'clock A. M.

AUBREY G. MAGUIRE,

sworn on behalf of Complainants, testified:

By Mr. How:

Q. Will you state your full name and your residence, Mr. Maguire?

A. Aubrey G. Maguire, St. Paul, Minn.

Q. How long have you lived here?

A. A little over four years.

Q. What is your present occupation?

A. Assistant General Freight Agent, Great Northern Railway.

Q. What has been your experience in railway work of a similar character to that which you now perform or in the same department, either with this or with any other railway company?

A. I have been in the freight traffic department of two railroads for about thirteen years.

Q. Starting with what road, and where?

A. Starting with the Missouri, Kansas & Texas Railway, at Houston, Texas.

Q. And you were with that road how long?

A. I was with that road for four years in the freight traffic department.

Q. In what capacity?

A. As Contracting Freight Agent, Traveling Freight Agent and Commercial Agent.

Q. And then, at the expiration of your service with that company, you came to the Great Northern?

A. I came to the Great Northern, as General Agent at St. Louis.

Q. In what year was that?

A. I think that was in 1900.

Q. And how long have you occupied your present position?

A. A little over four years.

Q. What is your title?

A. Assistant General Freight Agent.

Q. What are the duties of the Assistant General Freight Agent of the Great Northern road?

A. Well, we have three Assistant General Freight Agents in St. Paul, and up to the first of December last my duties consisted of supervision of practically everything that went on in the freight department office.

Q. In the main, general office in St. Paul?

A. Yes, sir; under the jurisdiction, of course, of my superiors.

Q. And since then have your duties changed?

A. Since December 1st, last, I have changed my duties and taken over the jurisdiction of the eastern end of the line more specifically.

Q. I show you map which has been marked Complainant's Ex. 39-Maguire; it purports to be a map portraying the Great Northern and the Northern Pacific and the Soo systems in the states of Wisconsin, Minne Iowa, South Dakota and North Dakota. Referring to that map, I wish you would describe the Great Northern system east of the westerly line of North Dakota, and state, if you will the distances from the Twin Cities at which each of its various lines go out of the state of Minnesota, and the border towns in Minnesota upon such lines.

A. You ask that the line be described from the westerly border of North Dakota, do you mean that?

Q. Yes, from its eastern terminals to the westerly line.

The MASTER: What color is the Great Northern?

WITNESS: The Great Northern is shown in green; the Northern Pacific in red, and the Soo Line in blue. The Great Northern Railway, starting at St. Paul and Minneapolis, extends

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over to the South Dakota line, and reaches South Dakota just beyond Jasper, that point being the last point within the state, the distance from Minneapolis being 209 miles. It also extends to Nassau, on what we call the Huron line, that point being 168 miles from Minneapolis.

Q. And enters South Dakota on that line?

A. Entering South Dakota; another branch extends to Brown's Valley, and stops.

Q. Brown's Valley being in Minnesota?

A. Brown's Valley being in Minnesota.

Q. On the border?

A. On the border; the distance from Minneapolis is 194 miles. Another branch going into North Dakota and South Dakota in the southerly portion of North Dakota, leaving the state just beyond the station of Childs, the last station within Minnesota, distant 194 miles from Minneapolis. Another line running from Minneapolis to Breckenridge, a distance of 204 miles before crossing over into North Dakota; another line (and in fact two lines) running to Moorhead, a distance by the short line of 231 miles from Minneapolis.

Q. And then goes into North Dakota?

A. Then going into North Dakota; another line leaving the state at East Grand Forks, distant 313 miles from Minneapolis, and entering the state of North Dakota; another line extending north to the Canadian boundary, leaving the state at Noyes, a distance of 381 miles; another line extending to Lake of the Woods, a distance of 424 miles from Minneapolis to Warroad; the line to Duluth from Minneapolis leaves the state at Holyoke, a distance of 120 miles from Minneapolis, entering the state of Wisconsin.

Q. And that line goes through a portion of Wisconsin and through Superior to Duluth, as its terminal?

A. Yes, sir. Then the line extending from Duluth to Grand Forks, runs from Duluth through a portion of Wisconsin, and

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enters Minnesota at a point 22 miles west of Duluth, the distance from that state line point to East Grand Forks being 274 miles.

The MASTER: The Soo is in blue, is it not?

WITNESS: The Soo is in blue; yes, sir.

Q. From Barnesville to East Grand Forks, there are apparently two lines, one wholly within the state, and the other which crosses the state line at Moorhead and goes through North Dakota, to Grand Forks, and then across to East Grand Forks?

A. Yes, sir.

Mr. HOW: I think those branches in North Dakota northerly from the main line sufficiently explain themselves, so that they require nothing in the record.

Q. It is considered, is it not, Mr. Maguire, that the Great Northern is subject to very strong competition, especially in the district which you have covered by this map?

A. Yes, sir.

Q. With the Soo and Northern Pacific?

A. Yes, sir.

Q. And in South Dakota with the lines from easterly tc Chicago, Illinois, etc.?

A. Yes, sir.

Q. And it generally occupies, so far as the district covered by this map is concerned a very strongly competitive territory?

A. Yes, sir.

Mr. HOW: The map is offered (Complainant's Ex. 39-Maguire).

Q. Apart from competitive conditions or apart from the effect of competition, how do conditions in the states of Wisconsin, Minnesota, North Dakota and South Dakota differ with regard to transportation?

Attorney General YOUNG: Does it appear that this man knows anything about it?

Mr. HOW: Well, I think so; he is in direct charge of all the

eastern end, he has testified, of freight traffic for the Great Northern system.

A. The conditions do not differ.

Q. Do you know of any conditions in these four states that justify any difference in the basis of freight rates to be charged for transportation?

A. No, sir.

Q. What character of freight shipments in the main are made on the lines of the Great Northern in these four states and to and from what principal points do they move?

A. The most important movement is farm products, grain, moving toward its market; coal from Duluth and Superior, also some from the South through Minnesota Transfer; merchandise of all kinds moving principally from the eastern terminals west; live stock moving practically all to or through South St. Paul and St. Paul, from practically all stations in the states mentioned.

Q. When you speak of farm products moving to their principal markets, from what stations on your line in North Dakota and Minnesota do those farm products move?

A. The farm products go from practically every station in the states shown with the exception so far as grain is concerned, of what might be termed the northeastern portion of the state, where the grain movement is very small.

Q. That is the Warroad line and the ore lines and in the neighborhood—

A. Particularly east of Bemidji.

Q. East of Bemidji?

A. Yes, sir; and there is very little grain directly west of Bemidji; it gets into the territory along about Fosston and Langby.

Q. How different in character are the shipments either to or from the stations in general in Minnesota and North and South Dakota, in the way of merchandise to them and farm products

from them, of various kinds? What I am trying to get at is whether there is any difference in the general character of these stations, or whether they are all alike with regard to the shipments which they receive and which they produce.

A. Well, they are practically all alike.

Q. Prior to the taking effect of the order of the Commission of September 6, 1906, what had been the practice of the Great Northern Company with regard to uniformity of tariffs for transportation of freight in these four states?

A. Well, generally speaking, the tariffs were uniform; particularly, the merchandise distance tariff, which applied to intrastate as well as interstate between the states of Minnesota and North and South Dakota.

Q. And Wisconsin?

A. And Wisconsin.

Q. You do not mean by that to say that there was absolute uniformity of rates under all conditions, but that your distance tariffs and in default of any conditions to make an apparent inequality, rates were on a similar basis?

A. Yes, sir.

Q. In fact the same basis exactly?

A. The same basis.

Q. How, if at all, have state lines figured in determining your tariffs?

A. State lines have not figured to any extent.

Q. Do you know of any reasons which justify a difference in rates on account of the interposition of a state line here, there, or elsewhere?

A. No, sir.

Q. What conditions exist in any of these four states which in your judgment would tend to justify a difference between state rates in any one of them (local rates in any one of them) and interstate rates for transportation in any two or more of them?

A. There are no conditions which in my judgment would justify any such basis.

Q. What is the distance by the short line from Minneapolis to East Grand Forks?

A. 311 miles.

Q. You have it 313 on this map. You think it is 311?

A. 311 miles by the short line, which is via Moorhead and Fargo.

Q. I might say that that is an interstate line?

A. Yes, sir.

Q. Let me confine the question, then, to the short line wholly within the state.

A. It is a little less than 313 miles.

Q. What is the distance from Minneapolis to Noyes?

A. 381 miles.

Q. Doyon, North Dakota, is 380 miles from Minneapolis; Noyes, Minnesota, is 381 miles from Minneapolis; East Grand Forks, Minnesota, is 313 miles from Minneapolis; what conditions exist which in your judgment justify different rates between the Twin Cities and points between East Grand Forks and Doyon to those which apply to points equally distant from the Twin Cities upon the line to Noyes?

A. No conditions.

Q. Apart from the effect of competition, if there are any competitive conditions, how could you justify yourself as against a complaint of unfair discrimination if you should apply different rates to points of the same distance in Minnesota in the one case and North Dakota in the other?

A. I don't know how we could defend them; I don't think we could.

Q. What is the distance from Minneapolis to Childs?

A. 194 miles.

Q. Childs is the border town in Minnesota on the line from the Twin Cities to Aberdeen, South Dakota?

A. Yes, sir.

Q. And the distance to Aberdeen, South Dakota, from Minneapolis is 340 miles?

A. Yes, sir.

Q. What conditions exist which in your judgment justify higher or different rates from the Twin Cities to points between Childs and Aberdeen, South Dakota, or to points between Childs and Forbes, North Dakota, which is on the same line, to those which apply to points within Minnesota at equal distances from the Twin Cities?

A. There are no conditions to justify any such difference.

Q. On any line in any direction from the Twin Cities?

A. No, sir.

Q. What is the distance to Neche, North Dakota, from the Twin Cities?

A. 391 miles from Minneapolis.

Q. What is the distance from Fargo to Neche on the line which is wholly within North Dakota?

A. 159 miles.

Q. There exists, practically parallel with the line from Fargo to Neche, a line from Glyndon lying wholly within Minnesota and running to Noyes as the boundary town, the one line being on the westerly and the other on the easterly side of the Red River; what conditions exist which in your judgment justify different rates on these two lines, competitive conditions being set aside, if any exist?

A. There are no conditions.

Q. The character of the transportation is the same and the commodities furnished to and by each town are the same, as I have understood your testimony?

A. Yes, sir.

Q. To what extent, as an operating matter are state and interstate rates interdependent; that is to say, for example, to what extent can you, over the same line, maintain state and interstate rates on a different basis?

A. I don't think you can maintain any different basis.

Q. How do you operate your trains so far as local and interstate traffic is concerned? do you run trains specially for local business and other trains specially for interstate business?

A. No, sir; the two are handled together.

Q. Do you know of any practical system, so far as you know about operating, by which you could operate them and handle them on different trains?

A. No, sir.

Q. Or even in different cars?

A. No, sir.

Q. And what is your custom in regard to less than carload lots, for instance, with shipments that go to Moorhead, perhaps, and to Fargo, or to state or interstate points, with regard to the separation of them and putting them in different cars or carrying them in the same car?

A. There is absolutely no difference in the method of handling the state from the interstate.

Q. They are all treated together and handled together and in the same car and in the same train and shipped at the same time?

A. Absolutely.

Q. So that the result is that if you maintain different rates for local and interstate traffic, you are charging different compensation for carrying the same merchandise or commodities, as the case may be, on the same train, and perhaps in the same car.

A. Yes, sir.

Q. To what extent can you maintain interstate rates between two points higher than state rates of another company or even of your own company, as between the same points?

A. You can't maintain them.

Q. Between Barnesville and East Grand Forks, your Company has two lines, one wholly within the State of Minnesota,

and the other which crosses into North Dakota at Moorhead and comes back at Grand Forks?

A. Yes, sir.

Q. What effect on rates upon your interstate line between Barnesville and East Grand Forks results from a reduction of rates on the state line between Barnesville and East Grand Forks?

A. Well, the lower rate would apply, of course.

Q. Do you know of any way of maintaining your interstate rate in face of a reduction of the state rate?

A. No, sir.

Q. Upon the taking effect of the rates prescribed by the order of the Commission of September 6th, what, if any, effect resulted upon your interstate rates to and from points in Wisconsin, North Dakota and South Dakota and Minnesota; that is, to and from points in those three states on the one hand, and Minnesota on the other?

A. Well, there were material reductions made.

Q. When were those reductions made?

A. Do you mean what date the tariffs—

Q. No, when as compared with the adoption of the merchandise rates prescribed by the Commission.

A. They were made at the same time.

Q. Simultaneously?

A. Yes, sir.

Q. And to what extent were reductions made on interstate rates with a point in Minnesota as either the origin or termination of the shipment? I want an answer to that in a general way, or how extensive the reduction was.

A. Well, it occurs to me that our rates, for instance, from the Twin Cities to practically all points in North Dakota were reduced; I know that we reduced them as far as Avoca.

Q. And Avoca is where?

A. Avoca is four stations from the Montana line.

Q. Four stations easterly of the westerly line of North Dakota?

A. Yes, sir; and, as a matter of fact, some of them we didn't reduce quite enough because we find the sums of the locals in some cases are less to Grand Forks than the present adjustment, which of course must be changed.

Q. What is your judgment with regard to the necessity of even further reductions in order that that objection shall be removed?

A. We must make further reductions.

Q. What did you do with your interstate rates from Duluth into Minnesota at the time of the taking effect of the Commission's order of September 6th?

A. Why, we practically considered that checked in a tariff from Duluth practically on the mileage from Duluth, notwithstanding that it was interstate; we were compelled to, had to.

Q. On account of the competition of the Northern Pacific?

A. Yes, sir.

Q. And the Omaha?

A. Yes, on account of the competitive features generally.

Q. The Omaha did the same, did it, at the time?

A. Why, I think they did, but I don't know as I ever checked any of their tariffs in that regard.

Q. What, in your judgment would be the effect of installing the rates prescribed by chapter 232 upon your interstate rates either to or from points in Minnesota?

A. The effect would be large reductions to and from Duluth, which is interstate, to and from points in Minnesota; also to and from points in North Dakota and South Dakota and Iowa —material reductions.

Q. On the 22nd of October, 1906, your company made certain voluntary reduction of rates on coal?

A. Yes, sir.

Q. Have you prepared a statement showing the effect upon

other interstate rates on coal brought about by that reduction?

A. Yes, sir.

Statement produced and marked Complainant's Ex. 40-Maguire.

Q. Complainant's Ex. 40 is entitled "statement showing how voluntary reductions in coal rates as made by the Great Northern railway effective October 22nd, 1906, affected through rates on coal from Chicago, Ill. The rates from Milwaukee, Wisconsin, Manitowoc, Wis., Gladstone, Mich., and from all Illinois mining points were affected to the same extent as shown from Chicago." Will you not explain that statement, and explain in general in what manner the reductions from Chicago shown upon that statement ensued and how soon; describe generally the situation.

A. This voluntary reduction was made at the time when there was considerable agitation, and it was decided to make a reduction in the rates to Minnesota in order to if possible still the agitation.

Q. In Minnesota?

A. In Minnesota. There had been no agitation or complaint, so far as we knew, regarding rates in other states; and when we made this reduction we limited it to a maximum extent to points in Minnesota. The lines that were competing with us in various communities and towns didn't take to our action very kindly, but they had to make reductions, which they did as quickly as they possibly could, as quickly as they could get the tariff published, from practically all points mentioned in this exhibit.

Q. They were made immediately after your reductions in Minnesota?

A. Yes, sir.

Q. And to what general cause do you attribute those reductions—competition of markets or carriers?

A. Competition of markets and carriers and communities.

Q. The statement shows that the rates from Milwaukee, Wisconsin, Manitowoc, Wis., Gladstone, Mich., and from all Illinois mining points were affected to the same extent as shown from Chicago. Do you know of any reductions in Missouri and in Iowa or in either that followed immediately the reduction in Minnesota?

A. At the time we made this voluntary reduction there was a meeting immediately called by the other lines in order to check in rates to meet the reductions by their own lines, and that meeting was held in Chicago. I personally attended it. We checked in the various rates, so far as the Great Northern was concerned, first; the other lines remained in Chicago and continued their check; we were interested in finding out recently just how far these reductions had gone, and we found that on hard coal, for instance, the adjustment necessitated reductions in the rates from Chicago to a few points in the northern portion of Missouri; it effected reductions on hard coal from Chicago to Des Moines, Iowa, for instance, to Butler, Iowa, Fort Dodge, Iowa, Oskaloosa, and caused a reduction to the extreme southern portion of Iowa; in fact, almost the entire state of Iowa was reduced from Chicago on hard coal, and as I said before, the Wabash railroad having a north and south line crossing these east and west lines in the southern portion of Iowa, had to make reductions on their own line to meet the rates at competitive points or forego the business and discriminate against their immediate local communities.

Q. Now, can you explain so that the Master will understand, just what necessity and how the railroads were under the necessity of reducing rates because of the reduction by the Soo, the Great Northern and the Northern Pacific, or perhaps by the Great Northern in Minnesota; explain it so that a layman can understand it, in your own way.

A. Well, that is a rather difficult task. But when we make our rates in the beginning—or rather our method of making

the rates is by comparison, and with the method of eliminating undue discrimination or any discrimination, broadly, in the various communities. If we reduce the rate from Minneapolis to East Grand Forks, we would of necessity have to reduce it to Grand Forks; the two towns are practically the same, just an imaginary line with the river between.

Q. And you did, at the time you made this voluntary reduction in Minnesota, so reduce to Grand Forks?

A. Yes, sir.

Q. And to other border towns?

A. Yes, sir.

Q. Proceed.

A. I might also say that a rate that is made, say, from Minneapolis to East Grand Forks, if a reasonable rate, would have to be extended on a progression that would become slightly smaller as it goes on any distance the progression being based on the terminal allowance we make.

Q. And extended to your interstate business you mean?

A. Extended indefinitely as to interstate business. For instance on coal, when a parity is reached in a community that is the result of experience, the rates being made by the various traffic officials from time to time with the help of the shipping public, it is extremely difficult to change that condition. You might take, for instance, the interstate rate we have on soft coal from Duluth to the Twin Cities; the rate is 90 cents; the Illinois mines make a rate of $1.40 from Peoria to the Twin Cities; if our rate from Duluth to Minneapolis should be reduced ten cents, the Illinois mines rate would be immediately reduced ten cents because the parity is there allowing free competition, there isn't any question about its reduction.

Q. Now, with that announcement of the principle, please explain how that applied so as to bring about the conditions shown in your Ex. No. 40. Take Aberdeen, South Dakota, for instance, a reduction from Chicago, and state why the Chicago

lines made that reduction.

A. Well, the old rate on hard coal from Duluth to Aberdeen was $3.25, and it was reduced to $2.80. The rate from Chicago to Aberdeen was the same and the same reduction became necessary or else the Chicago shipper had to go out of business, or equalize a very heavy difference, which he should not be called upon to do. The reduction was therefore made from Chicago to Aberdeen of 45 cents on hard coal and 20 cents on soft coal, the same as the reduction between Duluth and Aberdeen. The parity was maintained as nearly as possible. I don't think it was maintained absolutely in every respect, because when we check rates it is a very large job, and we sometimes have to change those rates slightly. We, however, do the best we can under the conditions.

Q. How long had that parity of rates between Chicago and points in Minnesota, North and South Dakota and from Milwaukee, Manitowoc, Gladstone, westerly, and from the Illinois mining points existed? How long has it existed?

A. I don't know, but it has existed ever since I have had anything to do with these rates. I think it has always existed practically.

Q. What, in your judgment will be the effect of a reduction of the present coal rates from Duluth to points in Minnesota upon rates into North Dakota, whether from Duluth or from Chicago, or from the Illinois mining points?

A. The rates from those points would be reduced to practically the same extent, as quickly as the tariffs could be published.

Q. And for the same reason?

A. Yes, sir.

Q. In order to preserve the parity which has always existed?

A. And found to be proper.

Mr. How: Deft's. Ex. 40 is offered in evidence.

Q. On the first of September, 1906, your Company voluntarily reduced grain rates in the state of Minnesota effective to Minneapolis and Duluth; I show you statement which has been marked Complainant's Ex. 41-Maguire; it is entitled "Statement showing how voluntary reductions in grain rates as made by the Great Northern railway effective to Minneapolis and Duluth effective September 1, 1906, affected through rates on grain to Chicago, Ill., effective September 11, 1906. These voluntary reductions were made with no motive to change rates from states contiguous (to Minnesota) to any point, north of Chicago, Milwaukee, Peoria or other eastern points either from Minnesota or from any contiguous state." Will you explain that statement?

A. Well, this exhibit is similar to that shown in Ex. 40 showing the coal. The voluntary reductions were made with the same motive. Now there is an absolute co-relation between the primary markets from the communities mentioned to Chicago, Minneapolis and Duluth, and when a reduction is made to Minneapolis a reduction has to follow to Duluth, which was interstate on our line, and immediately the same action took place with regard to the grain rates as with regard to the coal rates to preserve that same co-relation.

Q. Whether by other companies or by your own company—by all companies.

A. Yes, by all companies.

Q. Now, in both exhibits 40 and 41 I take it that these are merely sample reductions and that the reductions have, usually at least, applied to all intermediate points, of the same kind, in the same general locality?

A. Yes, sir.

Q. These are merely sample rates and sample localities taken for the purpose of illustration in each instance?

A. Yes, sir; junction points.

Mr. How: Ex. 41 is offered.

The MASTER: Did you say junction points?

WITNESS: All of these points are junction points.

Q. These points are junction points, and all the intermediate points were reduced similarly?

A. Similarly.

Q. Your Company has been recently engaged in what is commonly known as the Spokane rate case, Mr. Maguire?

A. Yes, sir.

Q. In that case, the interstate commerce commission in its decision fixed what it declared to be a reasonable rate from the head of the Lakes to Spokane on first-class merchandise for example; what was that rate?

A. $2.50 First Class from St. Paul and Duluth to Spokane.

Q. The same from the Twin Cities and Duluth to Spokane, $2.50?

A. Yes, sir.

The MASTER: Per hundred?

WITNESS: Per hundred pounds.

Q. What is the rate prescribed by the order of September 6, 1906, by the Commission of Minnesota, for First Class merchandise, from the Twin Cities to East Grand Forks?

A. 61 cents per 100 pounds.

Q. Have you figured the rate on First Class merchandise on the basis of the Commissioner's order from the Twin Cities to Spokane?

A. Yes, sir.

Q. Will you state in what different ways you have figured it and what the result it, what the rate acquired in each method is.

A. Using the Commissioners' rate up to 500 miles, with the progression they used for the last 100 miles of their schedule. the rate to Spokane would have been made $1.227.

Q. As against $2.50?

A. As against $2.50.

Q. Allowed by the Interstate Commerce Commission?

A. —which the Interstate Commerce Commission declared to be a reasonable rate. On another basis, figured on a long distance within the state, Minneapolis to Warroad by the Great Northern, 422 miles, the Commission's order allows 71.8 cents; the terminal allowance in the Commission's order is 11.02 cents, leaving 60.78 cents for 422 miles of road haul or 2.88 cents per ton mile. On a basis of 2.88 cents per ton mile, with the terminal charge which was first deducted and finally added, the rate to Spokane would be $2.223 per hundred pounds.

The Commissioners' distributing rate from Minneapolis for 500 miles is 74.7 cents per hundred pounds; deduct the terminal allowance of 11.02 cents per hundred pounds, and the rate per ton per mile is 2.54 cents for the road haul. To this add the terminal allowance, and on that basis the rate to Spokane would be 1.978 cents per hundred pounds. Another method, the distributing rate from Minneapolis to East Grand Forks is 61 cents; deduct terminal allowance of 11.02 cents, and the rate per ton per mile for the line haul is 3.22 cents per ton mile; with the terminal allowance then added, the rate would be to Spokane 2.472 cents. Now, I have figured out another progression, which is the straight Minnesota progression, based on the progression used for the distance 300 to 400 miles.

Q. East Grand Forks being how far from the Twin Cities?

A. East Grand Forks being 313 miles; the progression between 300 and 400 miles is not as acute as the progression for the remaining distance, which is the distance from Minneapolis to Warroad for instance, but on the basis of the progression from 300 to 400 miles, the rate to Spokane would be $1.7474 per hundred pounds, first-class.

Q. As against $2.50?

A. As against $2.50, ordered in by the Commission.

Q. What is the longest haul which the Great Northern has wholly within the state of Minnesota, and between what points?

A. The longest haul that I have been able to find is between Jasper, Minnesota and Warroad, which is 513 miles.

Q. Wholly within the state?

A. Wholly within the state.

Q. The Interstate Commerce Commission has in a hearing fixed the reasonable rate between Duluth and Sioux Falls, South Dakota, and Sioux City, Iowa, I think.

A. Yes, sir.

Q. What was that rate on first-class merchandise?

A. 80 cents.

Q. And how long has that been in force pursuant to the order of the Commission, approximately?

A. Eight or nine years, I think.

Q. Sioux Falls is at what distance from Duluth, on your line?

A. 343 miles.

Q. And what is the distance from Duluth to Jasper, the border town in Minnesota, upon that line?

A. 314 miles.

Q. The rate prescribed by the Commission for 314 miles, on first-class merchandise, is 61.98 cents?

A. Yes, sir.

Q. Do you know of any method of progression or computation or of addition, under the Commissioner's order, by which you can make a rate upon the basis of 61.98 cents for 320 miles and arrive at a rate of 80 cents for the 343 miles between Duluth and Sioux Falls?

A. No, sir; the distance is only 29 miles between the two points—

Q. What is your judgment with regard—

A. —you could not maintain any such basis at all.

Q. And why?

A. Why, it is out of all reason, and it is a discrimination against those communities, and besides that, it is greater than

the Minnesota schedule rate to Jasper for 220 miles, and added to their basis for 30 miles, in the first instance.

Q. Even covering four terminal charges?

A. Yes, sir.

Q. How do the present rates maintained by the Great Northern Company on lignite in North Dakota compare with the soft coal rates now maintained by the Company in Minnesota?

A. The lignite rates within the state of North Dakota are somewhat less than the rates now carried on bituminous coal in Minnesota.

Q. Were those rates on lignite in North Dakota voluntarily established by the Great Northern or under direction either of the Legislature or of the Commission of North Dakota?

A. The order making the rates was accepted by the railroads; in other words, they obeyed the order, the rates being established by the Legislature in 1906; I am not sure it was in 1906, it may have been in 1905.

Q. But what I am trying to get at is, that they were not voluntarily put in by the Company, but were established by the governmental authority of North Dakota?

A. Yes, sir.

Q. And the Company obeyed the order?

A. Yes.

Q. How do the present rates on lignite in North Dakota compare with the rates prescribed for soft coal by the Legislature of Minnesota in Chapter 232 Laws of 1907?

A. The rates in Chapter 232 are lower.

Q. And lower than those maintained in North Dakota on lignite; and the present rates maintained by the Company in Minnesota are higher than the rates presently maintained in North Dakota on lignite?

A. Yes, sir.

Q. Has the Commission in North Dakota taken any action

with regard to lignite rates in North Dakota subsequent to that under which the Company is acting at present in North Dakota?

A. The Legislature of 1907 passed another act reducing the rates on lignite to a point where they were lower than Chapter 232.

Q. What have the Companies done with regard to a compliance with that law?

A. They have not complied with it.

Q. And you are maintaining the old rates?

A. Yes, sir.

Q. You have been the recipient of many complaints, I take it, from time to time, with regard to the unreasonableness of rates maintained by your Company?

A. Yes, sir.

Q. What has been the basis of those complaints, as a rule, if there has been any rule about it?

A. The basis of practically all the complaints, and I don't now remember a single exception, although there might have been one or two, has been in connection with the comparison with other rates, already established.

Q. To other localities?

A. Yes, to other localities, or to the same locality.

The MASTER: Other rates on the same commodities?

The WITNESS: Well, largely, yes.

Q. Other rates on the same commodities to the same locality?

A. Sometimes, in the same locality via our own line, and sometimes via other lines, but practically all of the complaints we get are based on that comparison.

Q. Well, you don't mean to say you have had complaints between two citizens of the same town—not in recent years—that you were charging one citizen more than another for the same commodity, or same merchandise?

A. No, sir; I mean from one community, compared with the rates to another community.

Q. Whether that community were on your line or some other line, so that the rates ought to be in the opinion of the complainant, on a parity?

A. Yes, sir; that it is.

Q. To what extent have you ever had complaints from anybody upon the ground that a rate was unfair in and of itself, and because the railroad was getting too much money out of the rate?

A. I don't recall an instance.

Q. What, in your judgment, based upon your experience in rate making and control over rates by railroad companies, is the principal element in determining as to whether a rate is reasonable in and of itself?

A. The comparison of that rate with other rates to or from localities similarly situated is the principal basis on which we establish the rate. We establish the rates with a view of eliminating what might be termed unreasonable discrimination between communities, and with a view of being fair to communities and to the shippers themselves; and when we cover that, I don't think there is hardly anything left except competitive conditions which regulate us in the making of rates.

Q. If you establish rates upon pure mileage basis, treating each locality and each person in each locality upon the basis merely of the distance between the localities and the markets which they patronize or which patronize them, what is your judgment with regard to the result upon the reasonableness of the rates which would result in such case?

A. Well, if all the rates were based upon a distance table, competition between lines at common points would, in the first place, be eliminated very largely, almost entirely; and communities which have grown up on the present basis would largely be destroyed, as a commercial proposition.

Q. Put out of business, in favor of some locality with a shorter mileage?

A. Yes, sir.

SPOT ON PAGE

Q. I show you a blue-print map portraying the Great Northern and Soo lines, and a portion of the state of North Dakota, which has been marked Complainant's Ex. 42-Maguire. I will ask you to explain that exhibit, and show how it illustrates the point which you have just been making that reasonableness of rates may not result from making them upon purely a distance basis.

A. The lines shown in this exhibit represent the Great Northern lines in the northeastern portion of North Dakota, the Great Northern lines are shown heavily, and the Soo line is the light line running horizontally.

Q. And the Northern Pacific is also shown by a dotted line?

A. The Northern Pacific is shown by a dotted line. At each point the name of the town is shown, and the first two figures reading horizontally, are the present rates on wheat and coarse grain to Duluth and Superior via the Great Northern, direct line and via the Soo Line to Superior over their new line from Brooton, which is not yet in operation, but will be shortly. The second figures show the rates on wheat and coarse grain for the same mileages under Chapter 232, the rate of progression being the last 100-mile progression of the Chapter 232 rates. The third line of figures represents the mileage to Superior, Wisconsin via the Great Northern and via the new line of the Soo on the points shown of the Soo.

Q. I see at about the center of that map a point upon the branch of the Great Northern leaving its main line at Lakota named Weaver; in the same latitude with it, there is a point on the Soo named Necoma, and on the same latitude approximately with that, a point upon the Great Northern line upon its branch leaving the main line at Park River Junction, called Milton; Weaver is 403 miles from the head of the lakes; Milton is 380 miles from the head of the lakes, and Necoma, which is between them, is 506 miles from the head of the lakes on these respective lines; the tariff prescribed by the respective railroad

companies for each one of these localities, on both wheat and coarse grain is 13 cents; the tariff on the mileage basis to Milton is 11.8 cents for wheat and 10.3 cents for coarse grain, as against 13.2 cents on wheat and 11.7 cents on coarse grain for Necoma, and 12.1 cents on wheat and 10.7 cents on coarse grain for Weaver. I ask you how, in your judgment, such a difference as that resulting from the purely mileage basis from these towns would affect the town of Necoma; that is, a difference of 1.1 cent on wheat as against Weaver, and 2.4 cents on wheat as against Milton, and the difference of one cent on coarse grain as against Weaver, and of 1.4 cents on coarse grain as against Milton.

A. I think if that basis was established that there would not be enough grain sold in Necoma to keep one elevator there, and probably there would not be any elevators there very long, because they could not afford to haul the stuff there and market it.

Q. Have you in mind how much wheat, for instance, is hauled by your Company in a year?

A. Yes, sir; for the fiscal year ending June 30, 1908, we handled about seventy-four million bushels of wheat and thirty-seven million bushels of other grain.

Q. Reduce that to hundreds of pounds, if you can, seventy-four million bushels of wheat; I want to see how much difference one cent a hundred pounds would make in the income of the Company. I want to show it would be a very substantial difference, if I can.

A. Well, on both together, if all the grain were reduced a cent in round sum our freight revenue would be reduced about $550,000—over half a million dollars.

Q. Your judgment is that a difference of one cent in the carriage of freight to the principal market would be a serious burden or handicap on any community, if a lower rate were established in a nearby community, or one similarly situated?

A. Yes, sir.

The MASTER: How far apart are those places, right across the country? I mean in round numbers.

WITNESS: Well, I should say that the distance from Weaver, straight over to Necoma, the distance is about the same as from Necoma to Alsen there, and the distance between those two points is 17 miles. The distance, therefore, from Weaver to Necoma is probably about 18 miles.

The MASTER: A little farther to Milton, is it?

WITNESS: I should say it would be about 19, possibly 20 miles to Milton. The grain competition between Necoma and Weaver would probably be not quite so acute as between Derrick and Necoma, or Easby, where the distance is less and the rates are the same.

Q. It is approximately 30 miles from Weaver across to Milton, is it not?

A. It is about 11 miles from Derrick to Necoma; that would be where the nearest point is, and about the same distance from Easby, which is northeast, and southwest of Necoma.

Mr. HOW: Ex. 42 is offered in evidence.

WITNESS: I should say it would be about 33 miles between Weaver and Milton, instead of 30.

Q. Now, I show you Complainant's Ex. 43-Maguire, and ask you if you will explain what that portrays.

A. The heavy line shows the Great Northern branch which runs from Berthold in the western part of North Dakota to Crosby, Crosby being located almost on the Montana line. The little line shows the Soo line which parallels the Great Northern, extending from Minot to Ambrose. The first horizontal column represents the present rates on hard coal and soft coal from Duluth and Superior to points on the Great Northern and on the Soo Line; the second column represents what the rates would be on the basis of Chapter 232, the progression used being that for the last 100 miles. The Soo Line distances shown are via their new line. The third column in

each case represents the distance to Superior. This shows substantially the same as the other, except where the points are very close together.

Q. And what does it show in that case, "excepting where they are very close together?"

A. They are closer together than the exhibit Maguire-42 shows, and therefore the rates of the Soo Line, if made on Chapter 232, I think would practically eliminate those towns, if all the schedules were based on that method. I don't think there is any question about that. They would move right over to our town, they are so near now, in many cases, and the Soo Line would be left without any freight.

Q. Or without any towns?

A. Or without any towns.

Q. This Ex. 43 and Ex. 42, the one being confined to hard and soft coal, and the other to wheat and coarse grains, are intended merely as illustrative of the general doctrine that you apply that you cannot determine the reasonableness of a rate by figuring it out on a distance basis on the line on which it is situated?

A. No, sir; you cannot.

Q. And that is what these are intended to show, and merely as examples of the general doctrine?

A. Yes, sir.

Q. Which is applicable to merchandise and all other commodities?

A. And all other commodities.

Recess until 2 P. M.

AFTERNOON SESSION.

Q. As the record now stands, perhaps it appears that upon the adoption of the order of the Commission of September 6, 1906, your Company, although an Interstate line from Duluth to all points in Minnesota, adopted the same rates as have been

prescribed by the Commission from Duluth, on account of the competition of the Northern Pacific and the Omaha; perhaps it appears, also, that you adopted other Duluth rates on that same account; are you satisfied to have the record stand that way—do you wish to be understood that that was the reason for your adopting state rates from Duluth to points in Minnesota?

A. No,—if I stated it that way. That, of course, is not the reason.

Q. What was the dominant reason?

A. For instance, take the rate from Duluth to Grand Forks, we endeavored to preserve the same relation between the rates between Duluth and East Grand Forks as had existed in the past from Minneapolis to East Grand Forks, if you please, or to Crookston, the latter being a state rate, and we naturally had to preserve the relation. Otherwise, we would be discriminating materially against Duluth.

Q. As I understand it, the dominant reason was to preserve the relation between Duluth and Minneapolis so far as respected the rest of the state?

A. Yes, oh, yes.

Q. And that you were compelled to put in the rates from Minneapolis, and therefore changed your Interstate rates from Duluth in order to preserve the same relation that had existed theretofore?

A. Yes, sir; practically the same relation.

Q. Your department furnished Mr. Parker some tariffs for use by him in preparing statements to be offered as exhibits in this suit, I believe?

A. Yes, sir.

Q. What were those tariffs, and how and when were they prepared, and under what circumstances?

A. After the Chapter 232 was passed, the whole department was exceedingly busy in preparing a great many estimates as

to what the rates would mean, and we prepared estimates on various bases which we were requested to, and it was not until a very short time before the rates were to go into effect that we had instructions to get the tariffs out and put them into effect on the date that the order called for. It takes a good deal of time, and a very great amount of hard work to prepare a tariff of the size which would be necessary in any of those rates, and we hurried out the tariffs just as quickly as we possibly could; the printers worked day and night, and we succeeded in getting out tariffs on all the commodities except one which was lumber; we couldn't get it out. Now, we checked in at that time, by ourselves; that is, we showed in the tariff a great many changes in interstate rates which we, in a measure, checked in temporarily; we had no opportunity of conferring with the other lines and seeing what they were going to carry to competitive points, and we trusted on our ability to get the rates into Minnesota in within the time specified, and our plan was, immediately after that tariff was published, to check in with the other lines, in order that the rates might be properly lined up.

Q. The relation preserved, and your own localities protected, you mean?

A. Yes, sir. We had the tariffs set up in proof, with these discrepancies as to the Interstate movements, and Mr. Parker was furnished those proofs, and based, I believe, his comparisons on those proofs; and he was forced to get his figures out very quickly also, but those proofs were not good tariffs.

Q. In what respect were they poor tariffs?

A. Why, we naturally had the rates set for us within the state; and beyond the state we had to show some rates, and we graded the rates up from the state very quickly without regard to what anyone else might grade up to that point, with us, and without regard, I am sorry to say, to some of the communities that we served, because we anticipated having our rate-checks and getting the tariffs in immediately.

Q. Then the tariffs that you furnished Mr. Parker for use as the basis of his statements for Exhibits in this lawsuit were not prepared by you for the purpose of the suit, but for the purpose of filing as actual tariffs if the restraining order of this Court had not been entered?

A. Yes, sir; actual tariffs that were temporary in so far as Interstate movements were concerned.

Q. Now, what is your judgment in regard to these tariffs, were they higher or lower than you would have found it possible to maintain, so far as Interstate tariffs into and out of Minnesota are concerned?

A. They were very much higher in many respects.

Q. What would have been the result, in your judgment, of a more careful check and comparison with other localities, and competition with localities upon your line,—to lower or raise the tariffs as a rule, in such cases?

A. The result would have been to lower the tariffs. I don't believe we even had an opportunity of checking up and seeing whether the sums of the locals made lower than the rates we were putting in. We considered them temporary.

Q. What have you to say with regard to the lumber tariff; when was that completed?

A. The lumber tariff—we were either just beginning to work on it, or had started working on it when the enjoining proceedings were brought and we stopped.

Q. Then, when did you proceed with it and finish it?

A. At that time, we had to furnish Mr. Parker some figures, and we prepared another hurried exhibit—which to my mind was quite as bad as the others.

Q. Too high, or too low, do you think? higher than you could successfully maintain, so far as the interstate tariff went, or lower than you ought to have?

A. I think when we had gotten to put the tariff in, it would have been lower, to many points.

Q. And how, as a whole?

A. I think the tendency would have been lower, and eventually very much lower, because we have got to preserve some relation, you know; and we then possibly had self-preservation at stake, to some extent.

Q. Prior to the time of the taking effect of the order of the Commission of September 6, 1906, had your Company filed with the Interstate Commerce Commission, in conjunction with other companies, a schedule of through tariffs from eastern points to points in Minnesota?

A. Yes, sir.

Q. To and from?

A. We had class rates published from Chicago to various points in Minnesota.

Q. And what was the effect upon that tariff of the putting in effect of the order of the Commission?

A. When the order of the Commission was put into effect, the sums of the local rates made rates lower than the through tariff in effect from Chicago.

Q. The sum of what locals?

A. The sums of the locals on St. Paul.

Q. From Chicago to St. Paul, and St. Paul to the point of destination in Minnesota?

A. Yes, sir.

Q. Made lower rates than the tariff which you had on file with the Commission?

A. Yes, sir; in order to avoid discrimination we withdrew the through tariff from Chicago and filed the Minnesota rates with the Interstate Commerce Commission as proportional rates to be added to the Chicago rates, making the through rates lower than the old through rates.

Q. Have you prepared an exhibit showing some examples of the effect of that procedure and the amount of reduction which it caused in the through rate from Chicago to certain

points in Minnesota?

A. Yes, sir.

Q. Are the points mentioned in that statement merely representative points, or are they the only points to which such reductions were made?

A. They are representative points.

Q. How general was the reduction throughout Minnesota in the through rates from Chicago?

A. I think to every point in the state.

Q. I show you a statement which has been marked Complainant's Ex. 44-Maguire. It is entitled "Statement showing reduction in first-class interstate rates to some of the pivotal points in Minnesota from Chicago, Ill., and Milwaukee, Wis., occasioned by the merchandise rate order of the Minnesota Railway Commission of September 6, 1906. In a like manner, practically every interstate merchandise rate was affected to all points on the Great Northern Railway in Minnesota from Chicago, Milwaukee, New York, St. Louis, New Orleans and all points south and east of Minnesota Transfer. Note: The "old" rates are those in effect immediately prior to November 15, 1906. The "present" rates are those now in effect which were established as a result of the Minnesota Commission order." Now, if I understand this exhibit, the first disclosure upon it shows the old rate from Chicago, Ill., or Milwaukee, Wis., to Wadena, Minnesota of $1.09 per hundred pounds on first-class merchandise, and the figures set under the respective heads for the other classes?

A. Yes.

Q. That I understand was the tariff which your Company, in conjunction with other companies forming the through route, had filed with the Interstate Commerce Commission, and which was in effect as the through interstate tariff?

A. Yes, sir.

Q. The reduction of merchandise rates in Minnesota made

the sum of the locals from either Chicago, Ill., or Milwaukee, Wis., to St. Paul, and from St. Paul to Wadena 109.4, which is 8.6 cents less than the interstate rate?

A. Yes, sir.

Q. In order to avoid that condition of affairs in which your interstate through rate was more than the sum of locals, you canceled the old tariff and filed the Minnesota Commission order with the Interstate Commerce Commission as the basis of your proportional tariff in Minnesota for the haul from St. Paul or the Transfer to the point of destination?

A. Yes, sir.

Q. In through business from Chicago or Milwaukee; and the same course was pursued with regard to other eastern and southern terminals?

A. Yes, sir.

Q. I understand, also, that these points of destination or origin, as the case may be, shown in this Ex. 44-Maguire, are merely specimen points, and that the same rule had to be followed with regard to all points upon the line of the Great Northern in Minnesota.

A. Yes, sir.

Mr. How: We offer Ex. 44-Maguire.

Q. Those rates marked "present" rates are still in effect?

A. Yes, sir.

Q. And similar rates to all points upon your line in the state?

A. Yes, sir.

CROSS-EXAMINATION.

By Mr. O'BRIEN:

Q. Mr. Maguire, how long did you say you had been connected with the Great Northern Railway Company in your present capacity?

A. I have been Assistant General Freight Agent for a little over four years.

Q. Prior to that time you had been in freight departments of other roads, I understood you to say?

A. Prior to that time I was General Agent of the Freight Department of the Great Northern at Minneapolis, and prior to that time General Agent, at St. Louis, Mo.

Q. In those positions, you were soliciting freight shipments?

A. Very largely.

Q. You had nothing to say to the establishment of the rates?

A. Only so far as recommendations were concerned.

Q. So that your direct experience in establishing schedules or rates has been during the past four years?

A. Direct experience; yes, sir.

Q. And how old are you, Mr. Maguire?

A. Almost thirty-six.

Q. The general scope of your testimony, as I understand it, is for the purpose of establishing what might be called the interdependence of rates or the relation existing between different rates on the same road and on different roads?

A. Well, the exhibits largely were made up on the effect the rates have on interstate rates; yes, sir.

Q. In reaching your conclusions, you assume, do you not, that prior to the prescribing of the rates in controversy in this action, the various rates which you have examined, all bear a proper relation towards each other?

A. I think they did to a greater extent than they do today.

Q. Did you not assume that the proper relation was established by the rates actually in existence prior to the making of the Commission's order?

A. Very largely, yes.

Q. And your position is that the rates prescribed by the Commission and by the Legislature of Minnesota are too low, because they disturb the relation which existed prior to that time, and which, in your judgment, was a proper relation?

A. I think that the rates in the merchandise order which we published disturbed the relation materially, and I think that the Chapter 232 rates, if we published them and didn't extend them to a very much greater extent than the proof-tariffs we published, would have had exactly the same effect.

Q. And that because of that disturbance of the relation of rates, and because the prescribed rates in the state of Minnesota are lower than formerly, you insist that they are improper?

A. I don't believe I testified as to whether they were proper or not.

Q. Well, do you make any claim upon that point?

A. I think that the change in the relation and the subsequent loss of enormous revenue on account of the absolutely necessary change in interstate rates is one of tremendous seriousness to us.

Q. Well, I suppose these exhibits were prepared by you, or under your direction, weren't they?

A. Yes.

Q. And from them you claim that certain deductions are to be made. Now, what I am trying to ascertain is what you do claim from the exhibits generally: Is it what I have stated, that because the rates prescribed were lower than the former rates in Minnesota and because they disturb a relation between Minnesota rates and other rates which you have assumed was proper, that therefore these rates should go out?

A. My own opinion is that the rates in controversy are too low, but why I might have some difficulty in saying absolutely to your satisfaction.

Q. Then, I understand that your claim is from these exhibits, that you have shown merely the disturbance in the relation of rates; you have merely made a comparison of rates, in other words?

A. The exhibits indicate largely a comparison of the rates. They indicate what we might expect and what we have already

had to contend with, in the progression of the rates, and in the making of the interstate rates.

Q. In making this comparison of rates, the justness of any of the rates referred to, in and of themselves, was not considered?

A. I never have been able to satisfy myself that I could consider whether a rate was just in and of itself.

Q. Well, now, let us take the illustration which you gave in your map, Ex. 42; you pointed out that Weaver on the Great Northern line was 403 miles, while Necoma on the Soo Line was 506 miles. Let us assume, as a matter of fact, that the rate given from Weaver on the Great Northern road of 13 cents on wheat for that haul of 403 miles is an ample rate, but that the Soo road if compelled to haul wheat from Necoma at the same rate, a distance of 506 miles, would furnish that service at a loss, and that in order to make a profit it would be necessary that the Soo road should receive 14 cents; do I understand your position to be that that fact would justify the Great Northern in charging 14 cents in order that the Soo might receive the same charge for its longer haul?

A. The two rates would have to be, in my opinion, the same.

Q. When you say the two rates would have to be the same, you mean that the Soo road would have to meet that competition if it wanted to haul any grain, don't you?

A. Yes, sir.

Q. Isn't that a matter of concern to the management of the Soo road alone?

A. It is a great matter of concern to the town of Necoma, I should think. If they handled no grain, they would probably handle no coal, and they would handle very little merchandise.

Q. But is it your position that the people of Weaver should pay an excessive price for hauling grain in order that the Soo road should get its share of grain and the local storekeepers of Necoma get their share of the sales of merchandise, and that an

equal amount of coal would be burned in Necoma?

A. The rate at Weaver being 13 cents and the rate to the towns adjacent to Weaver, being 13 cents, we could not very well make it 14 at Weaver.

Q. Well, now, you don't think that is an answer to my question, do you?

A. Well, will you read the question again, perhaps I haven't got it straight.

Question read.

A. I should not think that the people of Weaver should be called upon to pay any excessive rates on account of any condition at Necoma.

Q. Now, you can imagine a large territory through which only one road passes, and which is served by one road, can you not?

A. Yes, sir.

Q. I presume that after you get beyond at least 15 or 20 miles, you reach that condition, don't you?

A. In North Dakota?

Q. Anywhere. That for marketing of grain and purchasing of groceries and things of that sort people don't ordinarily travel by wagon more than 15 or 20 miles.

A. Well, I don't know, but I think there is a good deal of grain hauled a good deal more than 15 or 20 miles.

Q. Well, there comes a distance, I presume, when a road may be said to be alone in a certain territory?

A. Yes, that is true.

Q. Would you have any way of ascertaining what was a fair rate in such a case, according to your theory?

A. I think that is the only theory that you could base it on.

Q. What?

A. My theory.

Q. Well, your idea is that the rates are based entirely upon

a comparison of one rate with another, and maintaining the relation of rates, is it not?

A. And to avoid—

Q. You said you didn't know of any way of determining whether a rate was just in and of itself, so that you eliminated from your consideration what is a just rate in and of itself?

A. Yes, sir.

Q. Now, under those circumstances where there is no comparison of rates to be made, is there any way of determining a just rate?

A. There is a comparison of rates to be made under any conditions.

Q. That is, if you were far enough away to find the other road, and find the other territory?

A. You don't have to go far; we don't have to go far, as a rule. The rates on our own line are not, to any neighborhood, quite enough, as a rule.

Q. But you still think that the only way of ascertaining the justness of a rate is by comparison of rates, and by establishing the relation of rates?

A. By the comparison of rates, by the relation of rates, and by the necessity of keeping communities, one with another, without undue discrimination.

Q. Now, as to keeping of communities on an equality, one with another, and without discrimination, that is a matter that ordinarily would be within the legislative discretion more than in the discretion of the road, would it not?

A. I don't believe I know just what would be considered best by the Legislature in their discretion.

Q. Well, you think that is a matter in which the Legislature should exercise its discretion?

A. It is a matter that the roads have always exercised their discretion, and when they build their rate basis upon that theory it is difficult to change it.

Q. But supposing you and the Legislature disagree on the question as to what would maintain the parity between different communities, who would govern in that case?

A. The Legislature has governed largely in the past.

Q. Well, is that one of the claims you made under these exhibits—that because the relations and equalities between the different towns are disturbed that therefore these rates should go out?

A. Why, I have simply shown in these exhibits the result of these rates if they were put in, to the best of my knowledge.

Q. But in none of them have you attempted to determine the justness of any of these rates in and of themselves?

A. I don't think that can be done to my satisfaction, unless I would know the cost—which was absolutely impossible to find out.

Q. Now, in saying that, Mr. Maguire, you assume that it is absolutely impossible to find it out, don't you?

A. I assume it, and I am perfectly satisfied in my own mind.

Q. Have you ever tried it?

A. Not in recent years.

Q. Did you ever try it at any time?

A. I started to try it once, but I very quickly gave it up.

Q. How long ago was that?

A. I don't remember; some years ago; just in an off-hand way.

Q. You mean you tried it just for your own information?

A. That is all.

Q. Without reference—

A. Just as a matter of curiosity.

Q. What data did you have when you tried that?

A. I didn't have very much to begin with. It was something to do with some rate out in Montana, I believe; I don't recall very much about it. I should say I very likely ran into a snag and that I abandoned the idea because it was perfectly

clear to me that it was impossible of fulfillment.

Q. And since that time you have never attempted it?

A. Since that time the matter has been very frequently spoken of and I heard the Interstate Commerce Commission, about a year ago, make the statement that it is impossible of finding it out and I accepted their decision.

Q. Impossible to find what out?

A. The cost of handling any particular class of traffic on a railroad.

Q. Now, what do you mean by a "class of traffic upon a railroad"?

A. I mean the cost of handling a carload of coal, for instance, for any particular point.

Q. And that is what you mean when you testify that it is impossible to ascertain the cost—That the exact cost of one particular carload of coal cannot be ascertained, is that it?

A. No, sir; you cannot.

Q. Well, is that what you mean?

A. That is what I mean; yes, sir.

Q. You do not mean that the cost of transacting the business local to the state of Minnesota cannot be ascertained?

A. The cost of transacting the business local to Minnesota?

Q. Yes.

A. I don't think it can be ascertained.

Q. You don't think it can be ascertained approximately?

A. No, sir. Approximately? why, you can approximate most everything; yes, sir.

Q. And you think quite a close approximation can be made, dont' you?

A. No, sir. In the first place—

Q. What do you mean by approximation which is a close approximation?

A. Why, I think you can approximate most anything, if you want to with arbitrary deductions, but I don't think you could

make a very close approximation without a great many arbitrary rules.

Q. What is the reason, Mr. Maguire, that of all the business transacted the ascertainment of the cost of furnishing transportation apparently is the only business in which the cost cannot be ascertained?

A. There is no reason for that except that it is absolutely impossible, to my mind. As an example, Mr. O'Brien, I am employed by the Great Northern Railway Company, and I could not, for a moment, begin to estimate how much of my salary should be charged to the local business in Minnesota.

Q. If you were employed in manufacturing boots and shoes and in the capacity of auditor of a boot and shoe factory, do you think you could tell how much of your time was given to the examining of accounts for the manufacture of slippers?

A. I think you could approximate that perhaps to your own satisfaction fairly closely.

Q. And if you were managing a boot and shoe factory and carrying insurance, do you think you could tell how much of that insurance was applicable to the manufacture of boy's shoes and men's shoes, separate each class, any more than the other?

A. I don't know, I am sure.

Q. Do you think if you were managing a wholesale grocery house, endeavoring to establish what per cent of advance you would charge upon a particular class of goods, you would be able to tell how much of the salary of a traveling man should be charged to each barrel of sugar?

A. I shouldn't think so; I might. I am not a grocery man, I don't know.

Q. And yet you know that where competition exists in any kind of business, the ascertainment of the cost of the business and the profit to be charged upon it spells the difference between success and failure, do you not?

A. I have no doubt.

Q. Now, don't you think that one reason that the cost of

service in railroad companies is so difficult to ascertain is because every official connected with the railroads refuses to make any attempt to ascertain the cost and announces that it is impossible?

A. No, sir; I do not. It is perfectly clear to me why it is impossible and I don't use any other deduction.

Q. In stating that the relation of rates in the territory contiguous to Minnesota served by the Great Northern road was proper and the same, you have assumed that the conditions were practically the same, have you not?

A. Yes, generally speaking, with the conditions.

Q. And you so stated that fact—in the three states are similar?

A. I think so.

Q. Now, do you think that is the fact—that the conditions are the same in the three states?

A. Why, I think that the conditions that I stated were the same.

Q. What large lumber mills are located in the state of North Dakota?

A. None.

Q. What large flouring mills are located in the state of North Dakota?

A. There are flouring mills at various points.

Q. Yes, but what large ones?

A. Well, there is a mill at Minot, there is a mill at Grand Forks, there is a mill at Ellendale—probably a dozen more.

Q. They corresopnd to the mills to be found out in the interior of Minnesota?

A. Yes.

Q. None of those correspond to the mills at Minneapolis, of course?

A. No, sir.

Q. What large cattle market is there in the state of North Dakota?

A. There isn't any.

Q. There are no forests in North Dakota for the obtaining of lumber?

A. No, sir; I don't think I testified that there was.

Q. No, you didn't, but you said the conditions were the same.

A. The operating railroad conditions relative to rate-making.

Q. That is, you mean the cost?

A. No, I mean that the conditions, so far as the operation of trains goes, are practically the same in the three states.

Q. You mean they run over steel rails and are—

A. In territory that is almost analogous, generally speaking.

Q. The similarity consists simply in the fact that there are steel rails laid upon ties and the cars are hauled by locomotives. What is the tonnage of North Dakota local to that state?

A. I don't know.

Q. And what is the tonnage in Minnesota local to the state of Minnesota?

A. I don't know.

Q. What is the total interstate tonnage received at the large terminals in Minnesota which originates in North Dakota?

A. You mean of what commodity?

Q. What is the total tonnage?

A. I don't know the total tonnage; I never figured it up.

Q. Nor do you know the total tonnage received at these same terminals of the same class which originates in Minnesota?

A. I haven't the figures; I don't know.

Q. How does the cost of service in Minnesota compare with the cost of service in North Dakota?

A. I think it is approximately the same.

Q. Do you know?

A. I don't know what the cost of service is.

Q. Well, do you think it is the same, or do you assume it is the same, or do you know?

A. We have always considered that it was the same, and I think it is approximately the same; whatever it is it is about the same.

Q. And how is the cost of service for the interstate tonnage originating in North Dakota and received at the large terminals in Minnesota as compared with the cost of the service of tonnage of the same character received at those terminals but originating in Minnesota?

A. Well, not knowing the cost, I can say that I should think and believe that whatever the cost is, it is approximately the same for similar distances, whether is it state or interstate. I don't think the imaginary state line makes any difference in the cost.

Q. If you don't know the density of the tonnage in Dakota and Minnesota, either local or interstate, and if the development and industries of those two states are different, as they apparently are from your testimony, don't you think it is a rather violent assumption to say that the conditions in North Dakota and Minnesota are the same?

A. I don't see where there could be any violent assumption when the cost, whatever it is, is approximately the same for the same distance.

Q. But you see the question of cost you have ignored up to this time; the cost of the service has been ignored; that is the fault that I find with your tables, Mr. Maguire, that you ignore the question of cost but assume that the Minnesota rate must be applied to North Dakota, and you further assume that the North Dakota rate was correct in the original instance and therefore we have no right to reduce it. Now, if you will—

A. I think the relation of rates was correct, Mr. O'Brien.

Q. If you want to base your argument upon the cost of the service, you should show the cost of the service.

A. I wish I could, and that would be very much easier for me and for everybody else, but I cannot; but I still think that the relation of rates—

Q. Well, the conditions of the states are not the same, are they?

A. The physical conditions of the states?

Q. Yes.

A. Well, the topography of the country is, I should say, about the same.

Q. Well, now, do you want to leave the statement that the conditions in North Dakota and in Minnesota are the same or not?

A. Well, I will go right back to what I said originally and say that the conditions regarding operation, in so far as handling of trains is concerned, are approximately the same.

Q. You then limit your statement to the conditions surrounding the operation of trains?

A. I did in the first instance.

Q. Then you don't mean that the conditions which enter into the making of rates are the same?

A. I think that the conditions which enter into the making of rates, one is dependent largely on the other; the rates in one state are dependent very largely on those of the other state.

Q. What is the reason that the rates between St. Paul and Duluth are lower than in any other portion of the state?

A. On any particular commodity?

Q. I think that is true of everything; I may be mistaken. It is the density of the traffic, isn't it?

A. The density of traffic sometimes warrants a reduction in the rates.

Q. Well, that is the difference; there is a concrete example, isn't there?

A. It is on coal and it is on flour. I was trying to think what it was on merchandise, but I don't recall. There is a reason for it.

Q. Now, what is the reason that the rates between here and Chicago upon freight are so very much lower than the rates be-

tween here and different points in Minnesota?

A. I should say on account of the density, on account of the proximity to the lake, possibly on account of the river.

Q. Now, all of those conditions enter into the making of rates, don't they?

A. Yes, sir.

Q. But when you stated that conditions as to rates were the same in Minnesota and Dakota and other contiguous states you were referring exclusively to the circumstances surrounding the operation of railroads?

A. In the testimony regarding that we eliminated the competitive feature.

Q. And you eliminated the density of traffic, didn't you, because you don't know what it was relatively?

A. Why, I know approximately where the heavy tonnage is. You asked me the figures, and I haven't got the figures. I naturally know—

Q. I asked you the question and you didn't answer me. Now, why you didn't answer me is a matter of your own conscience and your own judgment?

A. Yes, sir.

Q. You didn't give it, and you couldn't have taken it into consideration if you didn't have it in mind.

A. Is there a question?

Q. Did you, when you stated that the conditions in Minnesota, North and South Dakota, Iowa and Wisconsin were practically the same, intend to confine your answer to the methods, manner and cost of operating railway trains?

A. Only in a general way.

Q. What other conditions did you consider were similar?

A. I think that the conditions are similar, and I have always thought so, based on—

Q. There is no economy or expense attached to crossing a state line by a railroad, is there?

A. No unusual expense; no, sir.

Q. Relatively you consider that the transportation of a carload of wheat from Minot, or from any of the wheat-fields east of the Missouri river, is as small as the transportation of a car of wheat from the Red River Valley east of the Red River of the North?

A. I think any rate made on wheat from the Red River valley to Minneapolis should apply from Minot, with a fair progression on that basis.

Q. Well, now, of course, Mr. Maguire, you have given your opinion as to what should be done in that answer; as to what you base your opinion upon neither the Court nor counsel can have any idea. I asked you a direct question as to the cost, I didn't ask you what your opinion was as to what rate should be charged by any road. Now, if you will answer my question as to whether the cost is relatively the same, instead of giving your opinion as to what the rate should be, I would be very much obliged to you.

A. I think the cost is relatively the same. I think I have said that, haven't I?

Q. And when you consider two hauls of that character, the shortest of which is as long as the haul from East Grand Forks to Duluth or East Grand Forks to the Twin Cities, there is no reason why a higher rate per ton per mile should be charged in one case than in the other, is there?

A. The rate per ton per mile decreases with the distance.

Q. For how great a distance?

A. Indefinitely, I think, down to some approximate reasonable basis.

Q. Is it not true that your rates to Spokane from St. Paul have been the same as your rates to Seattle?

A. Yes, sir; on some commodities. They have been on the classes.

Q. And is it not true that the rate from Chicago to Spokane

and Seattle has been the same as the rate from St. Paul to those points?

A. The class rates have been the same.

Q. And in some instances the rate from New York the same as the rate from St. Paul and Chicago, both to Spokane and Seattle?

A. The rates from Chicago to territory east from New York have, I think, been the same, yes, to Seattle.

Q. It is not true that rates on your road, or on any other road in the United States, are established upon one flat, unvarying principle, is it?

A. Well, that depends on how broad the principles are, I should say. We don't use one principle, probably. The competitive conditions that exist at various points are of great importance and must be taken into consideration.

Q. Is it true that the rates upon your road or upon any other road in the United States are established upon any one fixed principle?

A. I think they must be generally; whether they absolutely are or not I don't know.

Q. Is there anything truer in rate-making than the principle that each rate must depend upon the circumstances surrounding that particular rate?

A. Each rate, when established, must have been put in for a reason.

Q. Well, isn't it absolutely true that each rate is established with reference to itself principally, primarily, and to the circumstances under which it is established?

A. I don't know just how to answer that, for the reason that if we were establishing a new set of rates in an entirely new country we would necessarily establish a basis that was favorable by comparison with other rates similarly established and in a method to allow the communities to thrive with other communities in a measure similarly situated. I don't think that

those rates so established would be remunerative for a while, but I would consider that they would be necessary until the communities were developed. I don't know whether that answers your question; maybe I don't just understand it.

Q. Well, maybe I asked it obscurely.

A. It is almost impossible to assume a point of establishing one rate unto itself without taking various things into consideration. I don't believe I have ever been asked to do so.

Q. Well, that is exactly what I said: there is no set rule for the establishment of rates?

A. The only rule that I know of that is fair is the one that I have given regarding—

Q. Well, in the first place, in establishing a rate, the general idea of the cost of the service would be taken into consideration, would it not?

A. I presume it must be, yes.

Q. The development of the country to be served would be taken into consideration, would it not?

A. That the country must develop; yes, sir.

Q. The ability of the industry to bear certain rates so as to enable the articles composing the traffic to compete in the markets would be considered, would it not?

A. Yes, the industry must have rates under which it can thrive as compared with other communities.

Q. The question whether you would get a return haul or be compelled to haul the cars back empty, would be considered, would it not?

A. Why, we have considered that in the past.

Q. Well, would you again?

A. My opinion is that the commodity which moves which causes the empty haul should probably bear some relation in its rate, if possible, to the expense we were put to in hauling the empty cars.

Q. So that in establishing a rate you would consider that question directly?

A. I don't remember ever having established a rate on the basis of cost; I don't know, I am sure, I might take that into consideration.

Q. The result of all of this is that in establishing a rate, instead of referring to a table of rates worked out in advance, you would consider the particular circumstances covering that particular service, would you not?

A. There are so many rates, it is hard to say, but if we were adjusting the grain rates in North Dakota to the terminals, either advancing them or decreasing them, we would, I presume, have to take the entire territory under consideration.

By request of Mr. O'Brien the Reporter read the last question.

Witness: If you mean by "service" the operation, we don't. I don't—at least I don't think I do. I might, but I don't believe I do.

Q. Well, I wasn't referring to cost in that question.

A. To the service you said.

Q. Well, the service is the hauling of the freight, rendering that service, under the conditions surrounding it. I was not referring to the cost of coal, etc.

A. Of course we know, Mr. O'Brien, that you cannot make the same rate for a hundred miles that you do for a thousand miles; that is where the distance enters into it too. But we practically lose sight of the fact of the cost, so far as that is concerned, the only thing we know about the cost is if at the end of the year our earnings are not big enough to suit the owners, why we know that either the operation is too expensive or the scale of rates is too low.

Q. Well, now, Mr. Maguire, I wasn't talking about the cost this time at all; I don't suppose you do know anything about the cost, that is not your department. But I said that in establishing a rate you had no fixed rule or table of rates to which you could refer to ascertain what would be a particular rate about

to be established by you, but you established that in view of all of the circumstances surrounding that particular haul or service?

A. Well, if I am right, the only way I can answer these things is to fix in my own mind somewhat a concrete example, that is what makes it clear for me.

Q. Well, I have enumerated the things which you would consider as going to make up a certain rate, and I have asked you if in establishing that rate you would take those matters into consideration instead of turning to some prearranged table, say for a hundred miles ten cents or fifty cents or a dollar; there is no such thing as that, is there?

A. I don't know of any.

Q. No.

A. We take into consideration the relation with other rates and the community—

Q. I think we have agreed on that. Now the only time that the relation of rates becomes important is when it is a question of competition, isn't it?

A. Well, competition in its broad sense, our competition, the competition of the shipper and the competition of the consignee and of the communities at both ends.

Q. Do you think that the railroad company in establishing rates is justified in considering any other competition except the competition between railroads? Would you have a right, in other words, to consider the competition between the Minneapolis, the St. Paul and the Duluth jobbers?

A. Well, that is what probably it would end up in our doing in some cases, because—

Q. Which of them would you favor?

A. We would attempt to hold a fair parity if the conditions were built on the parity.

Q. Why?

A. Because otherwise the jobber, or the community which

he was in, would be destroyed in a measure, and we in turn would have no business. I don't think that a community, on account of its having a few miles the best of a haul, should be given a monopoly on any particular business.

Q. Then in addition to the competition between railroads you would take into consideration the maintenance of equality between different distributing centers?

A. If those distributing centers had been built up upon the basis of a difference of that nature, I think it would be quite wrong to destroy them, and I also think that it would be quite wrong to disregard contiguous communities in the making of rates such as these exhibits indicate.

Q. Now, of course you don't understand or claim that there is anything in the laws which requires that, do you, concerning the rates which are in controversy here?

A. I don't believe there is; no, sir.

Q. So that the discussion as to what would be the effect on different communities of an absolute distance tariff is absolutely beside the question we are considering here?

A. I don't know as I know; I don't know as I can say.

Q. Assuming, as you have, that the conditions surrounding the haul from Eastern North Dakota are the same as the conditions surrounding the haul from western Minnesota, and, assuming further, that the rates prescribed by the order of the Commission and by Chapter 232 to western Minnesota afford sufficient revenue to meet your operating expenses and all charges proper to be made and a completely adequate return upon the property involved in that service, but those rates are lower relatively than the rates into North Dakota and assuming, further, that one or the other must give way, do you claim that the rates in Minnesota must be left at an excessive point in order that your rates into North Dakota, as to which nothing has been shown, shall be maintained?

A. I don't believe I can answer.

Q. Now, we come back again to the question of establishing rates. No rates that you ever heard of have been established upon the basis used by you for extending the proposed Minnesota rates into North Dakota?

A. I don't believe I ever saw—I don't remember—a schedule of rates just like the ones mentioned.

Q. Your terminal tariffs before the order of the Commission of September 6, 1906, were practically upon the same basis as the schedule found in that order, were they not, except that the rates in the Commission's order were lower?

A. My recollection is that there was a difference of about the same—five per cent.

Q. Had you extended prior to that time your rates into North Dakota upon any such principle as you have testified to in this case as your proposed extension of the Commission's rates?

A. Not on the same progression.

Q. And yet your terminal rates that you had in operation gave a less addition for the last hundred-mile haul than is found in the Commissioner's schedule?

A. The terminal rates we had at that time were blanketed and carried to Fargo and Moorhead, Grand Forks and East Grand Forks, so there is hardly a comparison.

Q. Wasn't there a comparison between two and three hundred miles?

A. I don't recall; but the rates being the same in that territory at that itme would rather destroy the progression.

Q. On November 15, 1906, when you changed your rates into North Dakota, simultaneously with the change in class rates in Minnesota, you didn't base your Dakota rates upon an extension of the Commission's order on any of the examples which you have given here?

A. No, sir; we didn't.

Q. And yet for nearly three years now you have maintained

rates upon a different basis of extension and a much higher basis of extension than you have testified to here as being one of the methods suggested by you.

A. We have maintained them, but I don't think we will be able to maintain them much longer. Some of them are even now, I think, higher than the sums of the locals.

Q. But even if you reduce them so as to be no more than the sum of the locals, you are not pursuing this method suggested by you of first deducting the terminal charge and then computing a road-haul for so many miles?

A. Well, my opinion is that if these rates are maintained absolutely some such progression as that will have to be put in eventually.

Q. Very well, sir. Now, of course, I can't meet you on predictions, but you have for two years and a half, nearly, maintained the merchandise rates in Minnesota and have readjusted your rates running out of Minnesota because of those merchandise rates, you say—

A. Yes, sir.

Q. —I request you, if you have such a thing, or if there is such a thing in existence, to produce a tariff put into a town outside of Minnesota at any point a single tariff upon any article of freight, upon the theory or basis which you have testified to here as being the result in the future of these rates, on any one of the three bases suggested by you.

A. There is no question but what the relation we have today is very, very badly disturbed and destroyed.

Q. Now, I insist that the suggestions which have been made, not only in this case but in the other cases that we have been trying, as to the necessary or natural or reasonable manner of extending these rates, are not correct and that that is shown by the fact, amongst other things, that for all of these years you have maintained your rates upon a different system.

A. Yes, sir; we have.

Q. Now, if there is anything in the past history of the Great Northern road, or of any other road that you know of, which establishes the fact that the method of extension suggested by you would naturally be applied or would have to be applied if these rates were maintained, I ask you to produce it.

A. Well, before this order we carried state and interstate rates in Minnesota and in North and South Dakota on a grade of progression which differed somewhat from these, and if we establish a progression on the merchandise basis—I may be mistaken, but I think it will have to extend to North Dakota. I will admit that our present relation is in bad shape.

Q. You have taken the rate to Grand Forks on merchandise of the first class—which I believe was 61 cents, you said—

A. Yes, sir.

Q. —from that you have deducted 11 cents for terminal charges, taken a road-haul of fifty cents, then computed the distance to Spokane and found a rate much lower than the rate suggested by the Interstate Commerce Commission recently upon merchandise of the first class; now, what was your terminal rate to Grand Forks upon merchandise of the first class prior to September 1, 1906?

A. I don't recall.

Q. Have you your tariffs here?

A. (Referring to tariff) To the first station out of Minneapolis the rate was 12 cents; to the second station it was 15 cents. That is five miles.

Q. That would establish a terminal charge of how much?

A. 9 cents per hundred pounds.

Q. Do you know what your terminal charge was?

A. I don't believe I ever figured it before.

Q. What is the rate allowed by the Commission on merchandise of the first class to Coon Creek, 24 miles?

A. The Commission's rate from Minneapolis to Coon Creek would be 13.96 cents.

Q. Let us see how it would come out. Assuming that your terminal charges were 9 cents and your rate to Grand Forks 67 cents, that would leave for road-haul 58 cents?

A. Yes, sir.

Q. And what would that be to Spokane?

A. On what basis?

Q. On the same basis that you figured the Commissioners' rate.

A. Well, we figured on five different bases.

Q. Well, this was one of them, wasn't it?

Mr. How: Which one do you want him to employ?

Mr. O'Brien: I want the same one that he used.

Witness: I used five. I figured on five different bases.

Q. One of those methods was this: you took the rate to Grand Forks, 67 cents, and you deducted from that a terminal charge of 11 cents, then you computed the road-haul to Spokane upon the same basis, and having reached there, you added the 11 cents terminal charges and found out what that rate would be, wasn't it?

A. Yes, sir.

Q. I want you to do that on your own tariff.

A. Using the progression between—

Q. Just use what you did in that example just as I stated to you. Your rate to Grand Forks was 67 cents, and that contains a terminal charge of 9 cents—

Mr. How: He wants your figures on the ton mile basis.

Mr. O'Brien: I want it figured on the basis he figured upon.

Q. —leaving 58 cents for your road-haul from Minneapolis to Grand Forks. Now, ascertain what that is per mile and multiply it by 1500 and see what it is to Spokane.

Mr. How: The ton mile basis—There were five different bases that he figured on.

A. 2.66 on that basis, but on the basis of the real terminal charge (which was 7 cents) it is 2.817.

The MASTER: I would like to have put right into the record an example showing how he figures out the rate from St. Paul to Spokane, showing his progression right through according to his bases. That is what you have called for. Now, I would like to have the figures put right in and an example made up so I can see exactly how he does it.

Q. You can do that by morning, I suppose?

A. Yes. You want it just in detail?

The MASTER: I want you to figure it out just in your own way, and I want the figures.

Mr. HOW: You can read it right off your own sheet there, I should think.

WITNESS: They are all on the exhibit in fairly good shape.

The MASTER: But the figuring is not on the exhibit.

Mr. HOW: You mean a concrete example of each one of his figures in each of his exhibits?

The MASTER: Well, the one he is using now, that Mr. O'Brien has called for.

Q. Your rate to Spokane at the present time is $3 upon merchandise of the first class?

A. Yes, sir.

Q. And the rate suggested by the Interstate Commerce Commission was $2.50?

A. Yes, sir.

Q. And as a matter of fact practically no freight moves on that first-class rate?

A. On the contrary, there is some movement.

Q. But very little, isn't there?

A. Well, there isn't very much from the Twin Cities.

Q. Nearly all of your freight between here and Spokane moves on commodity rates?

A. Yes, sir.

Q. So that this example of merchandise of the first class does not give very much information as to any actual rates upon

freight actually moved?

A. It simply shows the progression and was used because the Interstate Commerce Commission found it necessary to establish that rate first class.

Q. Now, if your method or your example as to the method of extending the rates found in the Minnesota schedule is practical, why is it that your own terminal rates, maintained for years between the Twin Cities and Grand Forks, was not extended upon the same basis?

A. You mean to Spokane?

Q. Yes.

A. I think there are so many motives that entered into the making of the Spokane rate that were more important—

Q. Now, that is just exactly what I asked you a half an hour ago, and that is true—that no one rate is established solely by reference to another rate, is it?

A. Not entirely; no, sir.

Q. Consequently, when you present tables here showing the effect of extending the rates from Minnesota, you are not showing any practical matter because those rates never have to be extended; now, isn't that true?

A. Well, that depends somewhat. Now, the line of progression shown—I don't believe the line of progression shown as you go on for several hundred miles should be increased—

Q. Now, of course, it is just like this: It is true that it is a very difficult thing to show why materially different rates from eastern North Dakota and western Minnesota can both be right, isn't it?

A. It is very difficult to show any particular rate.

Q. But you could take your own rates between here and Duluth and if you endeavored to extend them across the continent they would produce an absurdity, wouldn't they?

A. Why, there are a great many rates that if extended would produce an absurdity.

Q. The interstate rates maintained upon your own road between the head of the lakes and the Twin Cities if applied to the traffic on your road across the continent, would confiscate it, wouldn't it?

A. Well, I never figured it out.

Q. But you know they are much lower than any of the Minnesota rates?

A. Well, they are only for 150 miles.

Q. It makes no difference, they are lower than any of the rates prescribed here for Minnesota, a great deal lower?

A. Yes, they are a trifle lower.

Q. And you know that if the rates between the Twin Cities and Chicago were applied, mile for mile, to your road for the local business in the different states and all of the interstate business of your road, that it would produce very serious results?

A. I think with any competitive road that result would be obtained.

Q. And if the fifty cents allowed for merchandise of the first class by this same Interstate Commerce decision that you have referred to—

A. $2.50.

Q. Wait a moment—fifty cents for the haul between St. Paul and Chicago—if that rate were applied it would produce very, very serious results?

A. I don't know; I presume it might.

Q. Well, that is fifty cents for a haul of 400 miles?

A. Yes.

Q. That is very much lower than any of these Minnesota rates, twenty per cent lower, nearly?

A. Yes, approximately.

Q. Well, now, don't you agree with me—

A. That is a specific rate, though.

Q. Of course it is a specific rate, and so are these specific rates.

A. These are maximum distance tariff rates.

Q. And to consider their effect you have to consider whether you can get the entire maximum in each place, haven't you?

A. In some places you can't.

Q. Where your road has the long haul you can't get the full amount?

A. No, we never can get the entire maximum.

Q. You can get the entire maximum wherever your road is the short line?

A. Under ordinary conditions we can, yes.

Q. And your road is the short line in most instances?

A. Well, I don't know as it is. Of course, we have got a larger mileage in this state, and taking every town in the state into consideration, why, we might have.

Q. At almost every junction point your road has the short line?

A. Where—from Duluth or Minneapolis?

Q. From either place.

A. The map is the best evidence.

Q. Well, if you are not familiar with that I won't ask you that, because that is possibly a little out of your line.

A. We are the short line, of course, to East Grand Forks and Crookston from Duluth; the Northern Pacific is the short line from Duluth to Fargo and Moorhead.

Q. And so we might go on for an indefinite length of time without being able to ascertain any definite percentage of relation which one set of rates bears to another set of rates upon the same road or upon different roads or in one state or in any other state or in any of those states as compared with interstate rates; isn't that true?

A. We must at all times maintain a distance tariff, and a distance tariff should, I think, be the maximum rate; but we must also, at all times, carry at much lower rates than those distance tariffs.

Q. Well, will you be kind enough to work out the examples which the Master requested showing your suggested methods of applying the Minnesota rates ex-territorially?

A. Yes, sir. On the basis of the old—?

Q. No, what you read into the record here—the result. What I understand Judge Otis desires is the mathematical computation—the figures going to make up that result.

A. Yes, sir.

Adjourned until Tuesday morning, April 13, 1909.

Federal Building, St. Paul, Minn., Tuesday, April 13, 1909.

The hearing was resumed pursuant to adjournment.

AUBREY G. MAGUIRE,

recalled for further cross-examination, testified:

By Mr. O'Brien:

Q. Mr. Maguire, you were to present some computations?

A. Yes, sir; I have them here.

Q. Have you had time to prepare them?

A. Yes, sir; the computations which I have prepared are as follows: "Explanation of method of arriving at terminal allowance.

Rate under Minnesota Railroad Commission merchandise distributing tariff for five miles.....	12 cents.
Rate under Minnesota Railroad Commission merchandise distributing tariff for ten miles.....	12.98
Rate allowed under Minnesota Railroad Commission for five miles of road haul is.....	12.98
Minus	12
Gives	.98 c.

and this is the progression used uniformly for each additional

five miles up to 100 miles.

Five miles rate	12	cents
Minus	.98	for five miles of road haul
Leaves	11.02	for terminal expenses.

Example 1—500 mi. ton mile rate under Minnesota Railroad Commission Tariff.

Rate for 500 mi. is 74.7 per 100 lbs.
Deduct ter. charge 11.02

Leaves 63.68 per 500 miles road haul, which is $12.74 per ton, or 2.54 cents per ton per mile.

Distance Minneapolis to Spokane is 1467 miles which at 2.54 per ton per mile equals $37.26 per ton, or
$1.863 per 100 lbs.
Add 11.02 terminal charge

Gives $1.9732 per 100 lbs. under Minnesota Railroad Commission tariff from Minneapolis to Spokane as against rate of $2.50 fixed by I. C. C.

Example No. 2—East Grand Forks ton mile basis under Minnesota Railroad Commission tariff:

Distance Minneapolis to East Grand Forks 310 miles
Rate Minneapolis to East Grand Forks 61 cents.
Deduct terminal charge of 11.02

Leaves 49.98 for 310 mi. road haul, or 3.22 cents per ton per mile.

Distance Minneapolis to Spokane 1467 miles at 3.22 cents per ton per mile equals $2.36 per 100 lbs.
Add 11.02 terminal charge

Gives $2.47 per 100 lbs. under East Grand Forks ton mile rate as fixed by Minnesota Railroad Commission, as against $2.50 fixed by I. C. C.

Example No. 3—East Grand Forks ton mile basis under the old adjustment:

Terminal allowance under old tariff	5 cents
Distance Minneapolis to East Grand Forks	310 miles
Old rate Minneapolis to East Grand Forks	67 cents
Deduct terminal charge of	5 cents
Leaves	62 cents for 310

miles road haul or 4 cents per ton per mile.

Distance Minneapolis to Spokane 1475 miles at time old tariff in effect (which was before Devils Lake cut-off completed) 1475 miles at 4 cents per ton per mile equals 2.95

Add .05 termi. allowance

Gives $3.00"

Q. These examples that you give, Mr. Maguire, are examples as to what rate would be produced if the Commission's rates were extended to Spokane upon the bases and theories shown in this computation?

A. Yes, sir.

Q. You do not desire to be understood as saying that there is any practice in railroad companies by which they base interstate rates upon state rates on any one of the theories or bases shown in your computation?

A. When we make a distance tariff covering one or more states, the rate of progression should not increase, and in fact it should decrease slightly in every case. Now the distance tariff, so far as merchandise is concerned, is a sort of maximum tariff. We never have had a distance tariff that applied from St. Paul to Spokane, you understand.

Q. Have you in mind or can you give any instance where a rate within a state has been extended and applied upon either of the theories shown in your computation?

A. Previous to the merchandise rates we now have in effect,

we had in a distributing tariff which applied from the Twin Cities, for instance, to all points in Minnesota and North and South Dakota. That tariff was similar to this. The rate of progression was constant, and with the distance did not increase; and I think that rate, if extended all the way to the coast, would be higher than any through rate, or the same. I think it would bear the maximum; at least it should.

Q. Well, now, under your merchandise rates, prior to the order of the Commission, what was your rate to East Grand Forks?

A. The first class rate from the Twin Cities was 67 cents.

Q. And is that what you call a terminal rate; did that include two terminal charges?

A. Well, that included the higher rate at the terminals, which can be worked out and termed a terminal allowance.

Q. Was that the terminal rate from St. Paul to East Grand Forks?

A. That was; yes, sir.

Q. 67 cents?

A. Yes, sir.

Q. And did that include two terminal charges?

A. Yes, sir.

Q. And what were those terminal charges?

A. Well, the basis of that rate was made on the distributing tariff we had; and we for convenience sake showed a tariff from the Twin Cities showing the names of the points,—the tariff you saw yesterday, by the way; those tariffs were based on this distributing rate tariff, with the exception that the rates between Fargo and Moorhead and Grand Forks and East Grand Forks were blanketed first-class 67 cents.

Q. Well, what do you mean by a distributing rate?

A. The distributing rate that we had at that time was a rate that was a little bit lower than the distance tariff rate and applied from the large jobbing centers.

Q. Well, it is the same thing as I have designated as a terminal rate?

A. Yes, sir.

Q. Now, that from St. Paul to Grand Forks was 67 cents?

A. Yes, sir.

Q. Per hundred pounds, for merchandise of the first class?

A. Yes, sir.

Q. And how much of that consisted of terminal charges?

A. The basis used on that, figuring the terminal charges, the terminal allowance, would be 5 cents.

Q. Have you arrived at that figure in the same way that you have arrived at the terminal charges in the Commission's order?

A. Yes, sir.

Q. How did you arrive at that five-cent terminal charge?

A. The tariff was based on the terminal charge as follows: Ten miles ten cents, fifteen miles 12 cents, twenty miles 15 cents; the difference between the ten miles and twenty miles was 5 cents. The first rate of 10 cents included a haul of ten miles, and the difference between 5 and 10 is 5 cents.

Q. That was the amount that you yesterday said was 9 cents and afterwards thought it was 7 cents?

A. That was the amount that I took yesterday from the specific tariff, and used the point of Andover with an incorrect mileage, and last night I got out the distributing tariff, the one that is shown as miles on which that tariff is based, to find out the true facts. I haven't an extra copy of that, it is bound in our book, but it is Minnesota Railway Commission No. 35, and it extends up to 325 miles.

Mr. HOW: No. 35 is the number of the traiff sheet?

WITNESS: Filed with the Minnesota Railway Commission, —their number.

Mr. O'BRIEN: I notice that in Ex. 3 E-Staples the terminal charges would seem to be 9 cents; I would like if Mr. Staples

would see if they can agree on that.

The MASTER: That testimony was in the Northern Pacific, I believe.

Mr. O'BRIEN: That testimony was in the Northern Pacific, but it included the terminal charges of the Great Northern also.

The MASTER: Yes, I remember.

A. The second figure here in the Great Northern, being 15 cents, fifteen miles, is incorrect, according to our tariff, it should be 12 cents, the same as in the Northern Pacific; they have 12, haven't they?

Q. Yes.

A. I don't know where that was taken, but the tariff I have just mentioned on file with the Commission, shows the basis on which the specific rates to points named in the tariff were made. That tariff was made as convenience.

Q. You have been reading from a table which is divided off by ten miles?

A. This is a memorandum I took last night right off the tariff, I had the stenographer run it off, not intending to use it as an exhibit.

Q. No, but we ought to be able to agree on this fact, Mr. Maguire, and I thought possibly we could.

A. Well, I suggest that the Commission call up their office and look up that tariff and see.

Q. Have you added three cents for each ten miles?

A. Why, the progression runs up to 35 miles, it allows 3 cents.

Q. For every ten miles?

A. For every five miles, up to 35 miles.

Q. Well, now, you based your first calculation—

A. With the exception of the 15.

Q. You based your calculation there on ten miles?

A. Yes, sir; because you have got a set rate of 5 cents for

the ten-mile haul, and your first rate includes the ten-mile haul.

Q. Why not separate 3 cents for the second five-mile haul? After the first you find an addition of 3 cents for every five miles up to 35?

A. The progression—I don't see any way out of it, except that the terminal is 5 cents; you have got a set rate; you have got a rate of ten miles 10 cents; for 20 miles at 15 cents.

Q. Of course, if you arbitrarily deduct your terminals from one particular portion of that haul; but you have a tariff there which beginning after the second addition adds 3 cents for each five miles hauled up to 35, and after you reach 35 the amount that is added is 2 cents for each five miles up to 50, is it not?

A. I think it is; yes, sir.

Q. And your rate of progression varies at one time and another; now you assume that the terminal charge is all taken out of the first haul in the ten miles and that it is only 5 cents?

A. That is the way we have assumed in every case we have figured.

Q. There is no difficulty in ascertaining that in the Commission's order, because the Commission's order proceeds exactly upon the same rate of progression up to 100 miles?

A. Yes, and the Commission's order, I think, starts at 5 miles. We have never done that until—

Q. The Commission's order starts at five miles?

A. Yes, sir.

Q. And the same addition is made from five to ten that there is from 95 to 100?

A. Possibly, I think it is.

Q. Isn't that true?

A. Yes.

Q. So there is no difficulty whatever in arriving at it in that case?

A. No, sir; there is no difficulty in my mind if the conditions—

Q. 5 cents isn't an adequate charge for both terminals?

A. I don't know; I think it is rather an arbitrary.

Q. Well, assuming that that statement of yours is correct, that the terminal charge is only 5 cents, that would give you from St. Paul to East Grand Forks a rate of 62 cents for merchandise of the first class?

A. Yes, sir.

Q. Which would be $12.40 a ton?

A. Yes, sir.

Q. And the distance is 321 miles?

A. To East Grand Forks 310 miles, the short line.

Q. The distance on your road is what?

A. 310 miles.

Q. And that is what rate per ton mile?

A. 4 cents per ton mile. At the time these rates were in, the distance to Spokane was 1475 miles. It has decreased a trifle since on account of the cut-off.

Q. That would be $59 a ton?

A. Yes, sir.

Q. And practically $3?

A. It would be $2.95 per hundred and after adding the 5 cents terminal charge you get exactly $3 per hundred pounds.

Q. Now, what was your rate upon merchandise of the first class to Devils Lake, North Dakota?

A. 96 cents.

Q. What would that rate be, calculated the same as we have calculated the rate to Spokane; that is, taking 62 cents as the hauling charge, or 4 cents per ton mile, computing that for a haul of 383 miles?

A. The distance at the time this tariff was in was 395 miles, if that will make any difference.

Q. It may make a slight difference. You have got it on this map 383 miles?

A. Yes. Since that time, you know, they built this cut-off.

On the basis of the East Grand Forks mileage, the rate would be 84 cents.

Q. The rate actually was 96 cents?

A. Yes, sir.

Q. But the rate, if based upon the Grand Forks rate in the same way that we calculated with regard to Spokane, would have produced a rate of 84 cents?

A. Yes, sir.

Q. Now, aren't you mistaken in that calculation? 395 miles at 4 cents per mile would be how much?

A. 79 cents per hundred.

Q. So that those three rates—the rates to Grand Forks, Devils Lake and Spokane—were not based upon the same rate of progression?

A. Yes, sir; they were, but they were not based on the same rate per ton mile on the line haul. The progression is identical, in this tariff.

Q. Well, now, what is the progression then?

A. The progression in the distributing tariff is—

Q. If it is identical, what is it?

A. —is 19 cents for each 100 miles, and the tariff only goes up to 325 miles.

Q. Well, I am not speaking about that tariff, I am speaking about the extending of that tariff over your entire system. You didn't extend it, did you?

A. We extended it to 1475 miles on the last progression, which is a very high one or the same one we pursued in the original tariff up to 300 miles, and the tariff stopped at 325 miles; but in my opinion the progression should decrease as it goes on, but we never have had a distance tariff for that distance in Minnesota, and what the proper progression would be I don't know, I am sure.

Q. What I am trying to ask you is whether or not you based your rates for interstate commerce upon your Minnesota ter-

minal tariff upon any of the methods which you have presented here as a method of extending the Commission's rates.

A. The rate that we have got right here, Devils Lake, of 96 cents, is a fair extension of the same method used for the last two hundred miles in the Minnesota distance tariff, because an extension to 400 miles would make 98 cents, and this distance is a trifle less, and 96 compares favorably with the progression used.

Q. Well, now, you say that is a fair extension of the progression;—for what, of the last two hundred miles?

A. Yes, sir.

Q. Of what rate?

A. Of the old distributing rate in Minnesota and North Dakota.

Q. Have you got that rate with you?

A. I have got it here in a note.

Q. Was there a distributing rate published on the basis of a distance tariff?

A. Yes, sir; there was a distributing rate published. I tried to make that clear, but I presume I didn't—the distributing rates that had applied from the terminals and from the jobbing centers in Minnesota. Now, the tariffs we published from the terminals showed specific rates. That is, it did not show the distance tariff rates.

Q. That is what I was asking you.

A. It showed the specific rates, and this is the tariff, but from the shipping centers we showed the distance tariff on this basis, and this is built from that, they are the same basis.

Mr. How: The distance tariff was higher than the terminal tariff, was it not?

WITNESS: The distance tariff was higher than the terminal tariff, being based on about 105 per cent.

Q. The distance tariff from the jobbing centers was a terminal tariff?

A. Yes, sir.

Q. The distance tariff was a tariff that was higher than the terminal tariff?

A. Yes, sir.

Q. Now, your terminal tariff, the only terminal tariff you published, was not a tariff based on just distance, but it was the actual tariff from the terminals to specific stations?

A. That was the tariff we published in the Twin Cities; yes, sir.

Q. Do you say that the rate from the Twin Cities to Devils Lake was based upon the additional amount for the last 100 or 200-mile haul in Minnesota?

A. Well, I didn't make the tariff—it was very old—but the figuring I have just done here indicates that it was.

Q. Do you know what the additional amount was that was allowed under that terminal tariff?

A. The progression was 19 cents per hundred miles.

Q. Can you illustrate that? For instance, take the first station. You have your terminal tariff here, take the first station.

A. In Minnesota?

Q. Yes. What is the first station out of Minneapolis?

A. Coon Creek.

Q. And what is the distance?

A. Fourteen miles from Minneapolis.

Q. And what is the rate?

A. 12 cents.

Q. Now, what is the first station that is 100 miles from Minneapolis?

A. I don't see any just 100 miles.

Q. Can't you give one that is approximately—

A. Yes.

Q. —105 miles or—?

A. Well, Melrose is 100 miles.

Q. What is the rate to Melrose?

A. 41 cents. And that is the distributing rate for 100 miles in this tariff I mentioned to you.

Q. The amount of rate of progression there is more than 19 cents per hundred miles?

A. The rate of progression in the first instance—

Q. Maybe you had better take a station at 110 miles.

A. Well, I haven't the notes; I have taken five-mile distances in this memorandum up to fifty miles, and then I have jumped to 100, 200 and 300.

Q. You have got the tariff here?

A. I have got the tariff and can figure out what the rate would be.

Q. You can find a station there at 110 miles which would give us an additional 100 miles from Coon Creek?

A. Well, Sauk Center is 108 miles.

Q. What is the rate there?

A. 43 cents.

Q. There is 31 cents allowed for a haul in that 100 miles, is there not?

A. I don't know as I understand what you mean.

Q. 12 cents to Coon Creek, 43 cents to Sauk Center,—that is an addition of 31 cents, isn't it?

A. Yes, sir.

Q. Find a station 200 miles.

A. 200 miles—Pelican Rapids.

Q. What is the rate?

A. 60 cents.

Q. There is practically 19 cents added for that 100 miles. Take it at Barnesville, which is 210 miles, which is giving us exactly a jump of 100 miles, and you find a rate of 62 cents, do you not?

A. Yes, sir; 62 cents.

Q. So that 19 cents is added to the rate for that 100 miles?

A. Yes, sir.

Q. Now, give me a station 310 miles.

A. The rate should be 81 cents for that ditsance.

Q. You can make any explanation that you like but I want you to give me a station 310 miles and what the rate is.

A. The station called Mallory, 308 miles, the rate is 67 cents. That is in the blanket, takes the Grand Forks rate—competitive condition.

Q. The amount that was allowed there for the addition of 100 miles is 7 cents?

A. Yes, sir.

Q. And there is no higher amount allowed or charged on any station between 210 miles and 308 miles?

A. Do you mean intermediate, between those two points?

Q. Yes.

A. The 67-cent rate applies in that case as a maximum to the intermediate points, all of that territory being blanketed.

Q. You say that that rate is because of competitive conditions—that 67-cent rate?

A. Yes, sir; indirectly.

Q. Competition with what?

A. The 67-cent basis was made, originally, on account of the short line from Duluth to Grand Forks, and the same distance approximately was via Northern Pacific from Duluth to Fargo, and it was considered at that time that the rates to Grand Forks, and East Grand Forks, Fargo and Moorhead, should be the same from Duluth as from the Twin Cities, and the territory intermediate was blanketed on that basis to 67 cents.

Q. The distance on the Northern Pacific from Grand Forks to the Twin Cities is 313 miles, is it not?

A. I don't know.

Q. And upon the Great Northern 317 miles?

A. To Grand Forks?

Q. Yes.

A. No, sir.

Q. Well, what is it?

A. 310 miles by the direct line to Grand Forks from Minneapolis.

Q. It would be about 317 miles from St. Paul?

A. 320.

Q. From the transfer it would be practically 317?

A. It would be 315.

Q. From Duluth the distance on the Northern Pacific is 324 miles, and on the Great Northern 296 miles?

A. 297 miles to Grand Forks.

Q. You have the short line?

A. Yes, sir.

Q. From Duluth?

A. Yes, sir.

Q. And Duluth is not as far away as the Twin Cities?

A. No, sir.

Q. And yet you state that that rate of 67 cents was established because of competitive conditions between the Great Northern and Northern Pacific road?

A. I didn't state it that way; I stated that the rate of 67 cents was established because we were the short line from Duluth to Grand Forks and the Northern Pacific was the short line from Duluth to Fargo, and that the distances were practically the same and the territory was blanketed on that account, both from the Twin Cities and from Duluth.

Q. You have roads and lines running in every part of the state, many of them affording a much longer haul than 300 miles; had you, prior to the adoption of the Commission's rate, a terminal tariff to any point in the state which was higher than 67 cents?

A. Yes, sir; our rate, for instance, from Minneapolis to St. Vincent, was 91 cents.

Q. And what is the distance there?

A. 381 miles.

Q. And the rate from Minneapolis to Grand Forks, 310 miles, was 67 cents?

A. Yes, sir.

Q. Well, do you still think that you can claim that your rates, either in this state or out of the state, were established upon any uniform system, or did they not yield to each circumstance and condition surrounding each haul?

A. Why, the most nearly normal rates we have, of course, are the merchandise rates, and those rates were established on a uniform progression with the exception of what we termed the competitive conditions.

Q. Weren't there just as many stations in the state which came under the head of exceptions as stations which did not?

A. I think not. I think the large majority did not, but I never have counted up, Mr. O'Brien; I don't know, but I should think that would be a fair statement.

Q. What was the rate on merchandise from St. Paul to Crookston?

A. 67 cents, first class.

Q. And what is the distance to Crookston?

A. 290 miles from Minneapolis.

Q. St. Vincent is upon the same line?

A. Yes, sir.

Q. And extends up along the Red River valley?

A. Yes, sir.

Q. Until it reaches the Canadian border?

A. Yes, sir.

Q. Until the Soo road was built through there, yours was the only line?

A. Yes, sir; although the Northern Pacific was about a mile distant.

Q. The Northern Pacific was in Dakota?

A. Yes, sir; and there were other lines from the north, the Canadian Pacific and the Canadian Northern.

Q. What did you say the distance was to St. Vincent?

A. 381 miles from Minneapolis.

The MASTER: I see your figures differ a little on this map. For instance, Crookston is 288 miles and Grand Forks 313 miles.

WITNESS: I corrected the Crookston mileage to 290 miles; I probably overlooked correcting your figures to 290. We got one distance out of the passenger guide, and the other out of the official distance, and they do vary occasionally, you know, on account of the fractions being dropped.

Q. Now, supposing an article of freight left the terminals at Minneapolis, for the first 100-mile haul the charge would be 41 cents?

A. Yes, sir.

Q. In the same car another similar package might be carried for a distance of 200 miles, and the rate upon that package would be 58 cents?

A. Yes, sir.

Q. If the car contained a third package, destined for Crookston, 290 miles, the rate would be 67 cents?

A. Yes, sir.

Q. And a fourth package, destined for St. Vincent, 380 miles, the rate would be 91 cents?

A. Yes, sir.

Q. Can you select any line of your road, proceeding from the terminals, upon which any such rate of progression as you have claimed existed in your rates was established? If you can, and will present a table, giving it station by station, I would be very glad to have you do so.

A. The general basis is exactly as I have stated and the exceptions are the competitive conditions, which are not limited by anything that I know of except itself.

Q. Now, if you will extend that a little, I think we can probably agree and stop this cross-examination.

A. I would be very glad to.

Q. You establish a principle upon which, if you were going to establish rates, you would establish a sort of a general fundamental basis for that purpose?

A. A sort of a general maximum basis on merchandise.

Q. A general maximum basis?

A. Yes, sir.

Q. Which should extend over the entire territory for which you are establishing the rates, your general maximum basis?

A. Where we would consider that the conditions were approximately the same; yes, sir.

Q. You take into consideration the territory for which you were establishing the rates?

A. Yes, sir.

Q. And the conditions of that territory, and then you would establish what you say would be a general maximum?

A. Yes, sir.

Q. Then in the details of fixing the rates to particular points, you would disregard your underlying theory or maximum wherever it became necessary because of competition or peculiar circumstances?

A. Wherever it became necessary on account of competition or peculiar circumstances, taking into consideration all that I have already stated are the factors we use in making the rates.

Q. And those exceptions are frequent?

A. Yes, sir.

Q. The exceptions almost are as many as those which follow the rule?

A. There isn't any rule showing how many there are or how many there should be; there is no limit to the competitive conditions or conditions of that nature.

Q. And the exceptions are most pronounced where you reach a condition of heavy traffic and important terminals?

A. I think the underlying principles of rates which might

be low in comparison, where a heavy tonnage is performed, is probably on the basis of the number of competing lines, like between here and Chicago.

Q. Well, are not the conditions which go to make an exception accentuated when you reach the large terminals where there are many lines, often water competition, heavy tonnage—all those circumstances?

A. They are very apt to; yes, sir.

Q. Well, it is inevitable, isn't it?

A. Well,—

Q. I would like you to agree with me in something. Isn't it certain that where you increase the number of railroads, increase the facilities of transportation and increase the tonnage, you must increase the conditions which bring about exceptions to the general rule?

A. There is no rule that says so, but—And it is quite apt to be the case. You are asking me to make—

Q. I don't know what you mean by saying that there is no rule that says so.

A. I will admit this: with half a dozen lines between two communities, that is apt to prevail to more or less extent, because the more lines you have the greater the competition.

Q. Now, you have experienced a great deal of difficulty in dealing with your customers because of actual differences in rates to different points?

A. Why, the comparison of the rates is largely brought into consideration in the complaints that we get—more so than any other basis—yes, sir.

Q. So I understood you to say; and there is nothing, to your mind, which is more misleading than a mere comparison of rates?

A. I think there are a great many things in my mind that are more misleading than a comparison of rates.

Q. You think, then, that the comparison of rates affords a

proper guide for determining their correctness?

A. Very largely; provided one can tell the difference between a normal rate and a rate made under unusual conditions.

Q. Why should the people of St. Vincent pay 34 cents for an additional haul of 100 miles on merchandise of the first class when the people from Crookston and back for 100 miles from Crookston only pay 7 cents for an additional haul of merchandise, of 100 miles, or a lesser amount than that?

A. The condition at Crookston is in the territory that I already explained was blanketed for the reasons given. I can give you more reasons, if that is what you want.

Q. You have the short line to Crookston from Duluth?

A. I think we have; yes, sir.

Q. It is a matter of your own choice if you choose to put Grand Forks and Fargo upon an equality. A comparison of those rates shows nothing, does it?

A. The comparison of those rates in themselves does not mean very much, to each other.

Q. Now, why is it that it is only in considering the rates established by the State of Minnesota that you insist upon a scale of rates which will of themselves fit in with all of the other rates upon your road, both state and interstate? do you think that that is a fair test of these rates, when your own rates don't bear the same test?

A. Our own rates, that were in effect before this Commission's order, were reduced in places, for competitive reasons, in quite the same manner as the Commission's rates. We don't get the maximum commission's rates unless we establish a straight distance tariff.

Q. Well, nobody supposed you did.

A. Now, the conditions are parallel, practically, the old conditions with the new.

Q. The Commission's rate is a maximum rate—

A. Yes, sir.

Q. —and is not an inflexible distance tariff?

A. No, sir.

Q. And gives you an opportunity, within the scope of those rates, for adjusting your rates to suit yourselves?

A. Yes, sir; and that is practically the same as our old distance tariff rate, which was a maximum rate.

Q. Now, what was the rate upon merchandise of the first class from Minneapolis to Wayzata?

A. 12 cents.

Q. And what was the distance?

A. The distance was 13 miles.

Q. What is the next station upon that line of road?

The MASTER: On which line?

Mr. O'BRIEN: That is the Breckenridge Division, I think.

The MASTER: There is the Hutchinson Division.

Mr. O'BRIEN: I mean along the Breckenridge Division.

The MASTER: Long Lake, that is what it is.

WITNESS: Wayzata is on the terminal division. Wayzata is on the line from Minneapolis to Hutchinson. Did you want some other point?

Q. Wayzata is on the line from Minneapolis to Breckenridge, is it not?

A. The junction is made practically at Wayzata, not quite.

Q. I want you to continue along the line to Breckenridge. The next station is Long Lake?

A. Yes, sir.

Q. And what is the distance?

A. Long Lake is 17 miles from Minneapolis.

Q. And what is the rate?

A. 15 cents, first class.

Q. And what is the next station?

A. Maple Plain .

Q. The distance?

A. Distance, 21 miles.

Q. The rate?

A. 18 cents.

Q. Now, that same rate is from Minnesota Transfer and from St. Paul, is it not?

A. Yes, sir; we make the rates to Minneapolis apply from St. Paul and Minnesota Transfer.

Q. If we take that from the Minnesota Transfer, how many miles are added to each of these distances?

A. Why, five miles, approximately, between the Minnesota Transfer and the Twin Cities; it is about half way of a distance of ten miles.

Q. What was the rate allowed by the Commission by its order for a haul to East Grand Forks?

A. From Minneapolis?

Q. Yes.

A. 61.98 cents.

Q. What is your present rate to Devils Lake?

A. 90 cents.

Q. And that rate has been in force ever since November 15, 1906?

A. Yes, sir.

Q. Will you please let me know what the rate per ton mile is to East Grand Forks, including the terminal, taking the entire rate?

A. Based on 61.98?

Q. Based according to the Commission's rate, based on 61.98.

A. It is less than four cents.

Q. It is four cents, minus?

A. 3.97, I figure it.

Q. If you apply that rate per ton mile to Devils Lake, what rate do you arrive at?

A. It is a little over 76 cents.

Q. Your present rate to Devils Lake, and the rate you have

actually maintained is 90 cents?

A. The rate we have actually maintained is 90 cents; yes, sir.

Q. But if you establish that rate upon the basis that I have suggested now, you would only arrive at a rate of 76 cents, plus?

A. Yes, sir; if we establish it on that basis.

Q. And that is a more liberal basis than any basis which you have furnished an example of, because it is including the terminal charges, is it not, and taking the entire rate for the entire distance?

A. I don't think it is a very liberal basis.

Q. Well, taking the Commission's rate and extending it upon any of the three bases presented by you in your examples, can you obtain as high a rate as 76 cents to Devils Lake? if you can, I would be glad to have you do it.

A. Of course, when you figure the rate per ton mile on East Grand Forks, you can get an entirely different basis than if you figure it on Fargo to the same business out west.

Q. On which line of the road is Devils Lake situated?

A. That is on the line west of Grand Forks, and the freight moves through Wahpeton. I don't know as I have figured that out to Devils Lake. If the rate to Devils Lake is figured out on the same basis that it was originally figured out on, it would be probably less than that.

Q. What was the rate to Fargo?

A. In the old adjustment?

Q. Before the order of the Commission.

A. 67 cents.

Q. And how much is the rate at the present time?

A. From Minneapolis to Fargo?

Q. Yes.

A. The rate at present from Minneapolis is 54.1 cents.

Q. That is a reduction in the rate upon merchandise of the

first class to Fargo of approximately 12½ per cent, is it not?

A. It is a reduction of about 13 cents per hundred pounds.

Q. Can't you put that in percentages?—13 from 67.

A. It is about 20 per cent.

Q. Is it as much as 20?

Mr. How: About 18 per cent.

Q. 20 per cent would be 13.4, and this is 12.9.

A. It is a reduction of a little less than 20 per cent.

Q. Your present rate to Devils Lake is 90 cents?

A. Yes, sir.

Q. And what was your rate before November 15, 1906?

A. To Devils Lake.

Q. Yes.

A. 96 cents, I think.

Q. So that there you have made a reduction of what per cent—5½?

A. Approximately.

Q. Do you think that change was made upon any of the methods of extending this Commission's rate or any method of progression as a rate suggested by you in your tables?

A. No, sir.

Q. And it is not necessary that you should, is it?

A. Yes, sir; in my opinion it is necessary that we should and we will have to.

Q. You haven't done it for two years and a half?

A. No, sir; but there are reasons, and some of the rates we have in now are higher than the combination of locals right there; those rates are too high.

Q. You haven't done it for two and a half years?

A. No, sir.

Q. And you haven't been found guilty of discrimination on that point yet?

A. I think this suit has had a good deal to do with that.

Q. Why, you put in these rates voluntarily six months be-

fore this suit was commenced, nearly eight months before it was commenced?

A. Yes, sir; and we made them just as high as we could in the utmost spirit of self-preservation.

Q. The attack on these rates in this suit was a mere afterthought, commenced along in June, after you had had your rates in force for eight months?

A. Yes, sir; that is true, but we had a great many complaints about the rates.

Q. And you never would have attacked them if it hadn't been for the passage of the commodity rates and the two-cent passenger fare?

A. I don't know about that.

Q. Well, you know that in the first suit, commenced by the road in January, they were not attacked?

A. Well, I don't know very much about the legal aspects of the suit, in itself.

Q. Well, you are predicting as to what will happen in this matter.

A. Yes, sir; I am predicting it as my judgment.

Q. Now, notwithstanding and eleminating predictions, as a matter of fact, you don't know of a single rate which has been changed on your road outside of the state of Minnesota in which the basis has been as suggested by you in any of the three examples presented?

A. Do you refer to the merchandise rates?

Q. Yes.

A. I don't recall any; there might be some, but the relation was particularly badly disturbed.

Recess until 2 P. M.

Q. As a general proposition, Mr. Maguire, in considering rates, the through rate does not exceed the sum of the locals, does it?

A. It should not, in my estimation, under any conditions. That is my opinion.

Q. And that was the theory upon which you prepared Ex. 40?

A. Ex. 40 shows the coal rates and changes made and that exhibit was not prepared on the sums-of-local feature.

Q. Well, was it not, so far as the rate from Chicago was concerned?

A. All the points shown in that exhibit are covered, at present, and were covered at the time, with through tariffs on coal from Chicago; the co-relation between the various markets and points of production, was continued to the extent that you see in this exhibit.

Q. This Ex. 40 purports to show the exact results following the reduction in the rates of coal, made by the Great Northern road in October, 1906?

A. This shows, at various points, junction points, pivotal points; we could not very well show every point in the state, so we showed the pivotal points.

Q. But does it show what I have said as to those points?

A. As to these points; yes, sir.

Q. Now, what had been the rate upon hard coal from Chicago to St. Paul prior to the making of this reduction?

A. $2.

Q. What is the rate now?

A. It is still $2 from Chicago.

Q. What was the rate upon soft coal?

A. $1.40.

Q. And is that still the rate?

A. Yes, sir.

Q. Before the reduction, what was the rate from St. Paul to St. Cloud?

A. $1.10 on hard coal, $1.10 on soft coal.

Q. And the $1.10 from St. Paul to St. Cloud and the $2 from Chicago to St. Paul made the $3.10 rate from Chicago to St. Cloud?

A. Yes, sir.

Q. What was the rate from St. Paul to Wadena upon coal?

A. $1.80 on hard coal and $1.80 on soft coal.

Q. And the rate from Chicago to Wadena was $3.80?

A. Yes, sir.

Q. Via St. Paul or Minnesota Transfer?

A. Yes, sir.

Q. That was made up of the $2 from Chicago to the Transfer and $1.80 from St. Paul to Wadena?

A. Yes, sir; the sums of the locals are the same.

Q. Now, the rate from Minnesota Transfer to Wadena was $1.70, a reduction of 10 cents?

A. Yes, sir.

Q. And the Chicago rate was reduced the same amount?

A. Yes, sir.

Q. And so, wherever the haul was via the Minnesota Transfer, the through rate from Chicago was reduced exactly the same amount that the local rate from the Transfer to that point was reduced?

A. No, sir.

Q. Well, give me an instance where it was not?

A. I think all the other points shown there; Marshall, Minnesota, you might take.

Q. Is there coal hauled from Chicago to Marshall, Minn., via the Transfer?

A. Yes, sir.

Q. That is a rate that is put there to meet the rate upon the Chicago lines, isn't it, to southern Minnesota?

A. To Marshall?

Q. Yes.

A. Yes, sir.

Q. The lines direct from Chicago have the short haul there?

A. Yes, sir.

Q. And that rate is a rate that is controlled by the rate put in by the Chicago lines?

A. Yes, sir.

Q. And your voluntary reduction on that rate had nothing to say to the matter at all?

A. Our voluntary reduction?

Q. Yes.

A. Our voluntary reduction to Duluth had a great deal to say to it.

Q. In what way, if it is controlled by the rates put in by the Chicago lines?

A. On soft coal, the rate from Duluth to Marshall was reduced 40 cents per ton; the Chicago lines reduced theirs by the same extent, from Chicago to Marshall.

Q. Well, then, the reduction was the same in that case; that is not an exception to the rule that I have stated?

A. The reduction was the same, and the same—

Q. The reduction from Duluth to Marshall was the amount of the total reduction?

A. Was the amount of the total reduction that the Chicago lines carried to Marshall from Chicago, yes, sir.

Q. Now, that statement is true as to Exs. 41 and 44, is it not?

A. Well, the same general conditions prevailed regarding Ex. 41.

Q. Let us take, for instance, Ex. 41; you have taken the rate allowed for the carriage of wheat in Minnesota, and ascertained the difference between that rate and the present local rate, and deducted that amount from the through rate from the interior points to Chicago?

A. We have taken the old and the new rates as they existed, absolutely; any deductions or reductions made, the differences are shown after the rates were shown here.

Q. You have assumed the local rate from St. Paul and Minneapolis to Chicago would remain the same and the local rate into St. Paul would be changed in the same degree that it is changed by the rates prescribed in Chapter 232?

A. I think all the rates here shown are on through tariffs.

Q. Now, take the first item, rates from Appleton to Minneapolis: The old rate upon flax was 13 cents; the new rate 11 cents, the reduction 2 cents; the rate to Chicago upon flax was 22½ cents, the new rate 18½ cents and the reduction 4 cents. Now, how does it come that between Appleton and Chicago the rate was reduced 4 cents as a result of the reduction of the rate from Appleton to Minneapolis of 2 cents?

A. I didn't attend the meeting whereby these rates were checked, but I understand that the Appleton rate of 22½ cents was checked in originally as an error, for some reason, and should have been 20½.

Q. So that the difference ought to have been just the two cents?

A. In that case yes, sir; in checking a great many rates it is very difficult to get them all accurate.

Q. What is the local rate upon wheat from St. Paul to Chicago?

A. The local rate is 10 cents.

Q. Is there any wheat hauled on that rate?

A. Why, we don't have a line to Chicago. There is a good deal of wheat moved to Chicago.

Q. Do you know whether any wheat is hauled on that rate? You collect the through rate west of Chicago, don't you, on account of Chicago, for its portion of it?

A. There is a good deal of wheat hauled on the through rates from points on our line, but I am not particularly familiar with the local conditions between Chicago and St. Paul or Minneapolis.

Q. Isn't the rate on wheat, actual wheat and products of wheat, carried from St. Paul to Chicago, 7½ cents?

A. Why, I believe there is a proportional rate of 7½ cents—isn't there, when destined beyond? I am not sure about that. I don't handle those matters; we have no lines to Chicago.

Q. And you don't know. Do you think you are competent to present a table of the effect of these rates on through rates from points in Minnesota and Dakota to Chicago, if you don't know what the rate from Twin Cities to Chicago is?

A. The rate is 10 cents from Minneapolis to Chicago.

Q. Well, have you a rate in here of 10 cents, originally?

A. We have no rates in here from Minneapolis to Chicago.

Q. You have the rate in here, the through rate from the point of where it originates to Chicago?

A. Yes, sir.

Q. And you knew that when you answered my last question, didn't you; you knew what I meant, didn't you? Now, this first rate, from Appleton to Chicago you say of 22½ cents was an error?

A. Well that is what I understand.

Q. It should have been 20½. If the rate from Minneapolis to Appleton was 13 cents, and from Appleton to Chicago 20½ cents, that would leave 7½ cents for the haul from St. Paul to Chicago, would it not?

A. Yes, sir.

Q. And that is true of almost every one of the rates given in Ex. 41?

A. At Aberdeen on wheat the difference was 6½ cents.

Q. 17 from 24½ leaves 6½—7½, isn't it?

A. Wheat I am talking about.

Q. Well, 14 from 21½ leaves 7½.

A. At Wahpeton on flax there is a difference of 10 cents.

Q. Wait a moment. At Aberdeen, aren't you mistaken in what you said there? Isn't it 7½ and not 6½?

A. Yes, that is true; I was mistaken.

Q. Now, from Wahpeton, North Dakota, the difference in the rate to Minneapolis and the rate to Chicago is 7½, is it not—11½ from 19?

A. On wheat; yes, sir; 10 cents on flax.

Q. Can you say why from Ellendale North Dakota, flax and wheat and coarse grains were carried at the same rate, 14 cents per hundred pounds, while at Pipestone, Minnesota, flax was charged 15 cents, wheat 11½ cents and coarse grains 11 cents?

A. I am not sure, but I think it was based on the short-line mileage down there of the Milwaukee road running down there.

Q. What difference does the short-line mileage make as to the rates upon wheat and flax and grain, as between themselves?

A. If the Milwaukee road established that rate from Ellendale to Chicago, we feel we would have to meet it from our communities contiguous.

The MASTER: That sameness of rate is in all the North Dakota towns.

Mr. O'BRIEN: That is the rule, you say?

The MASTER: Yes, in all of North Dakota, at Fargo, Wahpeton and Ellendale.

Q. Now, the competition betwen roads has nothing to say to the difference in the rates, and, as is pointed out by the Master, in all the North Dakota towns you seem to have had the same rate for flax, wheat and coarse grains?

A. Yes, sir.

Q. In Aberdeen, South Dakota, you had 17 cents for flax, 14 cents for wheat and 14 cents for coarse grains?

A. Yes, sir.

Q. A difference of almost 20 per cent, a little more than 20 per cent, basing it on the wheat rate, between the rate for wheat and flax. Now, can you account for that, or was it just an error or chance?

A. No, sir; it was no error. The Great Northern has always carried the same rates on coarse grains as on wheat in North Dakota and Minnesota, and the lines comprising what is called the Western Trunk lines running from Chicago have always, as a rule, carried a higher rate on flax and wheat, and

a lower rate on coarse grain than on wheat, and as we went down into their territory we had to meet that condition.

Q. So far as the experience of the Great Northern is concerned, you know of nothing to justify that differential?

A. Well, our wheat rates we consider very low, and the bulk of our commodities in the northern part of the state is wheat, and we have always carried the same basis.

Q. So far as the experience of the Great Northern is concerned, you know of no reason which justifies that differential?

Mr. How: We will change it and put South Dakota on a par with North Dakota, if the Railway Commission of Minnesota wants us to.

A. I don't believe I have ever thought very much about that feature, as to whether or not the coarse grain on our line in the north should take a lower rate than wheat. I am rather inclined to believe that it should take about the same rate, because the wheat rate is very low.

Q. Now, we have heard it stated here, at great length, that the Great Northern road controls the situation to Pipestone on that line because it comes down from Willmar and cuts out all of the southern roads and is the short haul to Duluth, and therefore controls the situation and compels blanketing upon the other roads, and matters of that sort. I notice that at Pipestone your rate on flax is 15 cents, on wheat 11½, and on coarse grain 11 cents. Now, if it is the policy of your road, where you control the situation, to put in the same rates on each of those commodities and you do it in the northern part of the state, why don't you do it on that Pipestone line where you control the situation?

A. Well, in the first place, I don't think we do control the situation at Pipestone, so far as either Minneapolis or Duluth are concerned; in the second place, we were down in a territory where the differences in the rates on coarse grain, flax and wheat exist, the conditions are not similar to those in the north-

ern part of the state, and this basis was made after—

Q. How does your total tonnage in the southern part of the state on wheat and corn and flax compare with each other?

A. There is very little flax down there. There is probably more corn than there is in the northern part of the state.

Q. Do you know what the tonnage is in any one of those commodities?

A. No, sir; I haven't the figures with me.

Q. Then you don't think that the Willmar & Sioux Falls branch, running down through Pipestone, controls the rates in that vicinity upon the other roads?

A. I think all the roads practically might be said to control the rates; if one of them reduces it he has got control for a few moments until the other fellow reduces. I don't believe we are the short line, though, from Pipestone to Minneapolis.

Q. Do you know?

A. My recollection is the Omaha is shorter than we are. I can find out and let you know if you wish.

Q. The Great Northern 202 miles and the Omaha 214, and the Milwaukee 274 miles, and the Rock Island 299 miles.

A. If that is correct, the Great Northern is the shortest.

Mr. How: Is that to Minneapolis?

Mr. O'BRIEN: That is to the Transfer.

Q. What do you give here in your map?

Mr. How: We don't give the distance to Pipestone.

Mr. O'BRIEN: You give the distance to Jasper, 209 miles, and that is to Minneapolis.

Q. You said that your rates on wheat were extremely low?

A. Why, we have always thought that our rates were fairly low.

Q. I presume that a large portion of the wheat hauled by you from North Dakota points and from points in southern Canada and north of the Dakota line is to Duluth?

A. Yes, sir.

Q. Port Arthur is a station in Canada upon Lake Superior, about 400 miles farther from North Dakota than Duluth, is it not?

A. I should think it would not be 400 miles; at any rate, it is farther.

Q. Is it not true that the Canadian roads which reach competing points with the Great Northern road, carry wheat to Port Arthur at the same rate which you charge to Duluth?

A. You refer to points in Canada, Mr. O'Brien?

Q. Any points where they compete with your road?

A. They carry the same rates from points in Canada where they compete with our line that we do to Duluth from points in Canada.

The MASTER: To Port Arthur?

WITNESS: To Port Arthur.

Q. Your rates in Canada, where you haul through Dakota to Duluth, are relatively the same as your Dakota rates?

A. My recollection is that they are the same; I haven't the tariff here.

Q. That is, you don't drop the rate after you cross the Canadian line, do you?

A. I am not sure; we might; we don't drop it much; we might have to drop it, to compete with foreign conditions.

Q. Well, do you know whether you haul wheat from Canadian points through North Dakota to Duluth at less than you charge in North Dakota, at those intermediate points?

A. On the two branches that we have in Canada, we carry the same rates to the end of those branches as we carry to the branches in North Dakota, where they leave the state of North Dakota to go into Canada.

Q. You mean the rate is blanketed, so far as Canada is concerned?

A. Yes, sir; it is on the same rate as the last point in North Dakota.

Q. The rates upon grain to Port Arthur at points north of the Dakota line are the same as the rates in North Dakota immediately south of such Canadian points, although the Dakota wheat is carried to Duluth and the Canadian wheat is carried to Port Arthur, the latter being some 400 miles farther than Duluth?

A. The rates to Duluth from the two Canadian branches that we have are applied as a maximum to the rates directly south in North Dakota, which means that the rates on those two branches are not higher than those above the line; they may be lower.

Q. But those rates are met by the Canadian roads to Port Arthur?

A. Yes, sir; from that territory, from that vicinity to Port Arthur.

Q. I don't know whether I got this matter plain enough. It is true, is it not, that the Canadian roads running to Port Arthur carry wheat from Manitoba at the same rate as the Great Northern road charges in North Dakota from points on its line immediately south of the Canadian points?

A. Yes, sir.

Q. And those Canadian points are farther from the lake harbor by about 400 miles?

A. I don't think the distance is that far.

Q. Whatever the difference is between the distance from Duluth to Port Arthur?

A. Yes, sir; the grain rates east are the same from Port Arthur as from Duluth by the lake.

Q. What is the rate for wheat from North Dakota to Japan?

A. I never heard of one; I don't know as we have one.

Q. Do you know whether there is a rate or not?

A. I don't think there is. There is no through rate. The rate would be based on the local to Seattle plus the local beyond.

Q. What is the rate on wheat from North Dakota to Seattle?

A. It is either 65 or 70 cents, Mr. Dahlberg says, but I never remember seeing the rate.

Q. 70 cents a hundred?

A. 70 cents is the flour rate from Minneapolis to Seattle, and what the wheat rate is I don't know; I never heard of a car moving.

Q. Do carloads of flour move from Minneapolis to Seattle?

A. There is an occasional car of the flour sold by the large mills over there; very few.

Q. Flour rates and wheat rates are the same?

A. Ordinarily, but I don't believe the flour rate in this instance carries the wheat rate with it—possibly for the reason that there is no wheat movement.

Q. What is that per ton mile?

A. Minneapolis to Seattle is 1815 miles; 7.7 mills.

Mr. HOW: I think it will be suggested that any testimony in any of these cases that counsel for either side desire to use in any other case may be stipulated into it. I am not able to get a conference with those with whom I am associated; Mr. Butler is in one court and Mr. Holden in another, and both are busy, but if that stipulation can be made we can obviate the necessity, probably, of any testimony on the passenger question, and perhaps a good deal of other testimony; more than that, it will probably shorten Mr. Morgan's examination a great deal in this case, will it not?

Attorney General YOUNG: Yes.

Mr. HOW: So far as we are advised, I think we are all agreed that that is a proper thing to do and if we can agree to that, we can save a great deal of time, and we are pretty near the end of the particular testimony in the Great Northern case. I shall hope to finish it as soon as Mr. Butler can get a day to put in something that he has charge of, which I think will be surely the first of the week, perhaps in two days.

Mr. O'BRIEN: Of course we want to be accommodating, and we have had to ask for accommodations ourselves, but it has been a year, nearly, since we commenced these cases and we ought to close them, and I wouldn't find so much fault if I wasn't impressed with the fact that we are going over and over the same ground,—possibly I am to blame for that myself.

Mr. HOW: Well, I want to get rid of that.

Mr. O'BRIEN: But as each successive witness challenges me, I feel like cross-examining him.

An adjournment was taken until Friday morning at 10 o'clock, April 16, 1909.

Federal Building, St. Paul, Minn., Monday, April 19, 1909, the hearing was resumed at 10 o'clock A. M.

AUBREY G. MAGUIRE,

recalled on behalf of Complainants, testified:

RE-DIRECT EXAMINATION.

By Mr. HOW:

Q. Mr. Maguire, it has appeared in your examination heretofore that the rates on the Great Northern line from the Twin Cities and from Duluth, maintained prior to the order of the Commission, complained of in this suit, and made under date of September 6, 1906, were the same to Moorhead and to East Grand Forks, and, correspondingly, to Fargo and to Grand Forks. I wish you would explain a little more fully the reason for that equality of rates, inasmuch as it seems to be depended upon to disrupt your statement that rates upon your line were established on a fair, equal progression as a basis.

A. The Great Northern distance from Minneapolis to Fargo is 232 miles; the terminal distributing rate for that distance was 67 cents for the first class.

Q. That is upon the basis of your rates with the progression that you testified to used as a basis uniformly?

A. Yes, sir. The 67-cent rate was therefore established from Minneapolis to Fargo. The Northern Pacific distance from Minneapolis to Fargo is 240 miles, and that road of necessity established the same rate as fixed by the Great Northern, Minneapolis to Fargo 67 cents.

Q. With its shorter mileage?

A. With its longer mileage.

Q. Fixed by the Great Northern with its shorter mileage?

A. Yes. The Minneapolis rate was carried both by the Great Northern and Northern Pacific from St. Paul in order to maintain St. Paul and Minneapolis on a parity and prevent discrimination between them. The Northern Pacific distance from Duluth to Fargo is 256 miles; from St. Paul to Fargo 250 miles. With a difference in the haul of but six miles, and the necessity of maintaining St. Paul, Minneapolis, Duluth and Superior on a parity so far as possible, in order that merchants at all four points might work on an equal footing, without undue advantage in favor of any one of them, it was felt necessary to make the same rate from Duluth and Superior as applied from St. Paul and Minneapolis. This, then, established the 67-cent rate, first class, from Duluth to Fargo, via the Northern Pacific. The distance via the Great Northern from Duluth to Fargo is 308 miles, and the Great Northern of necessity was obliged to make the same rate as the Northern Pacific, and thus the 67-cent rate was established from Duluth and Superior to Fargo via Great Northern. Grand Forks is situated on the Red River and on the eastern border of the north-central section of North Dakota. The Great Northern main line extends through North Dakota due west from Grand Forks. Fargo is situated on the Red River and on the eastern border of the south-central section of North Dakota. The Northern Pacific main line extends through North Dakota due west from Fargo. The principal distributing

point on the Great Northern in North Dakota is Grand Forks, and the principal distributing point of the Northern Pacific in North Dakota is Fargo; Grand Forks occupies the same position with respect to the Great Northern road and the communities on the line west from Grand Forks as Fargo with respect to the Northern Pacific and the communities on the line west from Fargo. In order to maintain its principal distributing point and the communities west thereof on the Great Northern on a fair and equal basis as compared with Fargo and the communities west thereof on the Northern Pacific, the Great Northern was obliged to extend the same rates from the Twin Cities and Duluth to Grand Forks as extended to Fargo. The distance via the Great Northern from Duluth to Grand Forks is but ten miles less than the Great Northern distance from Duluth to Fargo; and considering all the circumstances, it was considered grossly discriminatory against Grand Forks and communities westerly to charge a higher rate from Duluth or Minneapolis to Grand Forks than was charged from Duluth or Minneapolis to Fargo. All of these conditions operated to make the rates alike from all of the eastern terminals to Grand Forks and Fargo, and this was the only logical adjustment fair to all communities.

Q. Now, the intermediate territory between Moorhead and East Grand Forks, was, prior to the order of the Commission, blanketed; that is to say, the same rate was maintained to all points in the intermediate territory from the eastern terminals and to the eastern terminals; will you state why that blanket was maintained.

A. The territory lying between Fargo and Moorhead, on the one hand, and Grand Forks and East Grand Forks on the other, was comparatively so small that, in order to avoid discrimination, the territory was blanketed at the first class rate of 67 cents.

Q. What is that distance?

A. It is about seventy miles.

Q. Do you know of any method by which you could fairly and so that those communities might all be treated justly, make your progression from Moorhead northerly to any intermediate point, and then drop it down again to East Grand Forks to a basis of 67 cents, in that distance of seventy miles?

A. Well, that might be justified on a long line where competitive or other conditions made lower than normal the rate at one or two points. As an example, take a line 2,000 miles long; at a point say 700 miles and another point at about 1 500 miles, competitive conditions set aside the normal basis and cause an abnormal adjustment. In such an instance the tendency would be to maintain as nearly as possible the normal rates in the intermediate territory and to simply meet the competition in the territory where the competition existed. Under such a condition, the rate would not ordinarily be blanketed over the 800 miles of non-affected territory. The intervening distance, however, between Grand Forks and Fargo is small, and the governing conditions in the intermediate section did not seem to warrant the carriers disregarding that blanket sustained.

Q. It appeared in your cross-examination that the rate from the Twin Cities to a point 200 miles was 58 cents, merchandise first class, to a point 290 miles it was 67 cents, as the rate of the nketed territory, and that that rate advanced for the next 90 miles up to Noyes to 91 cents, and that apparently was depended upon to show that your claim that you maintained your rates upon an equal basis of progression was erroneous. Now, will you, if you can, explain why the rate advanced so rapidly from 67 to 91 cents in that 91 miles.

A. Well, after leaving Grand Forks going west, the blanket territory ceased, and the rates were graded up to the normal basis at Keith, which is 83 miles west of Grand Forks.

Q. On the main line?

A. On the main line. Now, the same conditions prevailed at Humboldt, a point on the St. Vincent line, which is 84 miles north of Crookston. At these two points the normal basis obtained.

Q. And when you say the normal basis, you mean the same basis that would have existed at each of those points if the blanket had not been there at all?

A. Absolutely; those rates would have existed regardless of the blanket.

Q. And if the competitive conditions had not existed to interrupt the progression, both Keith and Humboldt would have had the same rate that they did have under the conditions as they did exist?

A. Yes, sir.

Q. In other words, if I may state it myself, when you leave a blanketed territory, you get away from the results of that blanket as rapidly as you think proper?

A. Yes, sir.

Q. Now, on what basis did you establish the intermediate rates between East Grand Forks and Humboldt, for example; on what basis did you arrive at the rate that would have been in existence if the blanketed territory had not existed and you had proceeded upon your ordinary progression?

A. Why, the grading was done, I think, on a mileage prorate, which was not quite so severe as the sums of locals would make, not only up on the St. Vincent line, but out on the line west of Grand Forks.

Q. That is to say, in raising the rate northerly and westerly of Grand Forks, you guarded against making the rate higher than the sums of the locals to Grand Forks and then on?

A. Our general method is to make them small, lower than the sums of the locals, and I am sure we did it in this case. I never have checked it up, but that is to avoid the scalping of the territory, and the difference is not great.

Q. You were cross-examined with regard to Deft's. Ex. 3-E Staples in the Northern Pacific suit, which contains a list of rates alleged to have been maintained on the Great Northern road prior to the order of the Commission, and the apparent object of that was to show that your claim that prior to the Commission's order your company had established and maintained rates on a regular progression was erroneous. Have you examined Deft's. Ex. 3-E Staples in the Northern Pacific suit since your previous testimony was given?

A. Yes, sir.

Q. And have you prepared a statement showing some criticisms upon that statement and some facts in connection with it?

A. Yes, sir.

Q. Will you produce that, please.

Witness produces statement and same is marked Complainant's Ex- 45-Maguire.

Q. You have produced it, and it has been marked Complainant's Ex. 45-Maguire. It is headed "Statement showing basis for rates indicated in Staples Ex. 3-E"; the first column headed "Miles" is the same heading and contains the same number of miles contained in Staples' Ex. 3-E, as I remember it?

A. Yes, sir.

Q. The second column headed "Rates shown in Staples' Ex. 3-E" contains the rates shown in that exhibit and attributed to the Great Northern Railway Company?

A. Yes, sir.

Q. The third column headed "Correct basis" shows the rates actually maintained by the Great Northern prior to the Commission's order?

A. Yes, sir.

Q. The fourth column headed "Basis for Staples' Ex. 3-E" really shows the lack of basis rather than the basis?

A. Yes, sir.

Q. You have in the first line there miles 10, rates shown in Staples' Ex. 3-E 12, correct basis 10; basis for Staples' Ex. 3-E "No basis." Now, what do you mean by "no basis"?

A. I mean that we could not find any showing a 12-cent rate for that ten miles.

Q. That is to say, you could not find in your tariffs any foundation for the assertion that the Great Northern maintained a rate of 12 cents for ten miles?

A. No, sir.

Q. And that is the same with regard to each of those items in which the words "no basis" are used as a remark?

A. Yes, sir.

Q. The fourth column headed "Actual rates shown in G. F. O. 12,100 M. R. C. 27," shows examples of rates maintained to specific points at the distance or approximately the distance in the line referred to?

A. Yes, sir.

Q. And you have a series of notes on page 2 of the Exhibit which are explanatory of points indicated by asterisks, and so on?

A. Yes, sir.

Q. Now, beginning with 240 miles of that exhibit, the rates selected as examples for Staples' Ex. 3-E apparently were the rates included within the blanketed territory about which we have been talking?

A. Yes, sir.

Q. And in the last column, under the head "Actual rates shown in G. F. O. 12,100 M. R. C. 27" are points upon your line at similar distances, with the actual rates maintained, and points that are not affected by competitive conditions, so that they are within blanketed territory?

A. Yes, sir.

Q. But were subject to your regular rates without being affected by competitive conditions and upon your ordinary basis?

A. Yes, sir.

Mr. How: That is offered. (Ex. 45-Maguire).

Q. I hand you statement marked Complainant's Ex. 46-Maguire, which is headed "Statements showing actual basis of specific terminal first class rates which applied from Duluth (same basis from Twin Cities) prior to rates ordered in by Minnesota Railway Commission order of September 6, 1906." Will you explain that exhibit?

A. The first column are mileages shown from Duluth, extending up to 620, various distances; the second column shows the straight distance tariff rates for those mileages, the straight distance tariff rates being based on 105 per cent of the terminal tariff rates.

Q. That is, straight distance rates prior to the order of the Commission?

A. Yes, sir. The third column shows the terminal distance rates which is based on 95.24 per cent of the straight distance rate. These particular rates in here were taken from our terminal distance tariff up to 325 miles, and the rate of progression was extended in the usual manner. The fourth column shows the actual rates which applied from Duluth at that time.

Q. To the points indicated?

A. To the points indicated.

Q. And at the left of those points the distances from Duluth?

A. Yes, sir. To the right of those points the rates, and the letters before the rates are explanatory notes.

Q. Contained on—

A. Contained on page 2 of the Exhibit, which explain competitive features which reduces the rates in instances shown.

Mr. O'BRIEN: Isn't there an error in speaking of the fourth column showing rates? The fourth column shows miles, doesn't it?

WITNESS: I have taken the top, Mr. O'Brien.

Mr. HOW: He calls the miles, the points and the rates one column. I think it is clear.

WITNESS: The fifth column indicates the rates which are at present in effect as the result of the order of September 6, 1906.

Q. Now, let me ask you, if comparing the column headed "Terminal distance 95.24 per cent" of distance with the column showing the actual specific rates from Duluth to the points indicated you find any discrepancies excepting such as are explained by the notes indicated by the letters at the left of the figures showing the rate?

A. No, sir; all the rates there are shown on that basis as a maximum. And where no unusual conditions existed the rates were absolutely the same.

Q. I find by reference to note "A" that for example Carleton at a distance of thirty-five miles for which your terminal distance tariff on your ordinary basis was 24 cents, had a rate of eighteen cents, but that the distance from Duluth to Carleton by way of Northern Pacific was only 22 miles, the rate for which on the same basis was 18 cents. I take it that your company adopted the same rate as that of the Northern Pacific for its shorter mileage, and that all intermediate points, namely Saunders at 11 miles, Boylston at 13 miles, Houston at 29 miles, were graded up to that shorter mileage rate?

A. Yes, sir.

Q. And that explains why your ordinary basis was set aside with regard to those first four points?

A. Yes, sir.

Q. And the other notes are explanatory of other rates where the ordinary terminal tariff was set aside for some purpose and the purpose is explained in the notes in each case?

A. Yes, sir.

Mr. HOW: I offer that exhibit (Complainant's Ex. 46-Maguire.)

Q. In your cross-examination, Mr. Maguire, a good deal has

been said regarding the similarity of methods followed in ascertaining the progressions used in your statement showing rates as they would exist if the Minnesota Commission's merchandise rates were extended and those which had existed upon your line prior to the taking effect of the order; you have stated, for example, that the extension to Spokane covering firstclass merchandise would make a rate approximately of $3.03 under the old schedule and under the progression as you maintained it, and $1.227 under the schedule ordered by the Commission. Criticism was apparently made upon your methods that you had not used the same basis of extension that you had used in making your own rates prior to the interference with them by the Commission. Will you, in your own way, explain the old progression, made upon the basis of your former terminal tariff, and that which would exist under the present terminal tariff if the progressions as to distances are used in the same manner?

Attorney General YOUNG: Whose explanation is it he is reading?

Mr. HOW: You can cross-examine him, General Young, in regard to that. You don't object to his reading a prepared answer, do you?

Attorney General YOUNG: Well,—

Mr. HOW: If you do, say so, because I don't care.

Attorney General YOUNG: It looks like testifying from a book.

Mr. HOW: Well, if you have any objection, assert it. Now, I am not going to let the witness be criticised for that. I suggested that he prepare his answers so as to be clear, and it saves time, and if there is any objection, assert it.

Attorney General YOUNG: Of course, if they are his answers, it is all right, but coming in with answers in this way we don't know who prepared them. If you say they are his—

Mr. HOW: You can cross-examine him about that and see whether they are his answers or not. Perfectly welcome to do that.

Attorney General YOUNG: Go on.

The MASTER: That course has been pursued a good deal here, General.

Mr. HOW: Oh, yes, that course has been pursued customarily.

A. The Minnesota Commission's distance and terminal schedules at present in effect provide that the rates shown are maximum rates. There was nothing in the September 6th order to indicate that the rates then established should be considered as actual rates regardless of competition or unusual conditions. They were simply maximum rates. Prior to these rates being established, both our distance tariff and our terminal tariff from the Twin Cities and Duluth applied not only on Minnesota local business but local and interstate between Minnesota, Wisconsin, North Dakota and South Dakota. The distance tariff was 105 per cent of the terminal tariff, and the latter was 95.24 per cent of the distance tariff. These terminal rates also applied from various jobbing centers other than the Twin Cities and Duluth. The progressions used were similar except based on the percentages previously mentioned, and on the theory that the progression for the last haul in each schedule should not be increased with distance when the transportation conditions are the same the rates of the Minnesota Commission's order if extended in exactly the same manner and to the same territory where the old basis did extend (that is, in Minnesota, North Dakota and South Dakota, for instance), the maximum first class rates would be those as shown in the last exhibit.

Q. That is Ex. 46-Maguire?

A. Yes, sir.

Q. You have in Ex. 46-Maguire used rates from Duluth, I observe, and for what reason?

A. We used the rates from Duluth because we have a straight direct line west from Duluth.

Mr. O'BRIEN: Will it interrupt you if I ask a question? When you were reading from your statement you said that the rates were produced at the rate of progression allowed for the last portion of the haul; the rates would be as shown in Ex. 46? Do you mean that the rates allowed would be as shown in the last column of Ex. 46?

WITNESS: On the third column.

Mr. O'BRIEN: You had better correct your manuscript in that respect.

WITNESS: It would apply to both the third and the last column, Mr. O'Brien, according to the way I read it.

Mr. O'BRIEN: Well, I just simply wanted to get the matter so we would understand it. I don't understand that on that theory of progression which you say would have to be followed if the Minnesota rates were in effect that you could get a rate of $1.37 to Avoca 619 miles from St. Paul.

WITNESS: Oh, I see what you mean.

Mr. O'BRIEN: You would not get that rate after you reached Spokane upon your theory of interpreting these rates.

WITNESS: This covers what obtained before, as I stated. The last column in the Ex. 46, showing the present rates, was not based on that theory, as before explained.

Q. So the extensions that you have suggested of the Minnesota Commission-made rate is no new method, but as I understand it, the same theory of progression and extension that had been used by your company prior to the interference by the Commission with the merchandise rates?

A. Why, the Minnesota Commission's rates showed a small rate of progression with the distance, a smaller rate or the same rate of progression with the distance; and our old basis showed exactly the same; it did not in any case show a higher rate of progression for any distance as far west as Montana.

Q. Do you know any justification under ordinary conditions for raising the rate of progression with added distance in making a rate?

A. Under similar transportation conditions, the progression should be reduced, in my opinion.

Q. And you know of no justification for raising it?

A. No, sir.

Q. What was the total wheat tonnage handled by the Great Northern Company from stations in North Dakota, Minnesota and South Dakota for the year ending June 30, 1908?

A. 1,364,961 tons.

Q. Of that amount how much did North Dakota produce on your line?

A. North Dakota produced 1,997,000 tons.

Q. That is 73 per cent of the total tonnage of the three states?

A. Of the total wheat tonnage; yes, sir.

Q. What is your mileage in North Dakota?

A. 1545 miles.

Q. What is your mileage in Minnesota?

A. 2056 miles.

Q. And in South Dakota?

A. 262 miles.

Q. What percentage of the mileage in the three states is comprehended within the state of North Dakota?

A. About 40 per cent.

Q. Therefore, that 40 per cent of the mileage of the railway in these three states, North Dakota produced 73 per cent of the total wheat produced in the three states on your lines?

A. Yes, sir.

Q. What percentage of the total grain (wheat and coarse grains) did North Dakota produce in the year mentioned, upon your lines, that was transported upon your lines?

A. 68 per cent.

Q. And what percentage did Minnesota produce?

A. 24 per cent.

Q. And South Dakota?

A. 8 per cent.

Q. How many tons of grain of all kinds, wheat and coarse grains, were produced on your line in North Dakota for the year 1908, per mile of road?

A. 879 tons.

Q. And how many in Minnesota per mile of road?

A. 237 tons.

Q. And in South Dakota?

A. 580 tons.

Q. North Dakota, therefore, produces, per mile of road, more than three and one-half times as much as Minnesota? That is correct, is it not?

A. Yes, sir; it figures out 3.7 times as much.

Q. Now, a portion of Minnesota does not produce grain, and I think it is in your testimony that your lines run through a considerable portion of Minnesota that produces no grain; about how many miles of your lines in Minnesota are non-productive of grain of any kind?

A. About 600 miles.

Q. That leaves 1456 miles in Minnesota which is grain-producing?

A. Yes, sir.

Q. Now, considering that 1456 miles alone, how many tons per mile does that make your line in Minnesota?

A. It makes 334 tons of all kinds of grain per mile in Minnesota.

Q. And that is considerably less than half as much as North Dakota produces per mile of road?

A. Yes, sir; about 37 per cent.

Q. Have you with you figures showing the production of wheat and coarse grain in North Dakota from the years 1902 to 1908 inclusive?

A. Yes, sir.

Q. And shipped upon your line, that shows merely wheat

and coarse grain shipped upon your lines in North Dakota?

A. Yes, sir; shows wheat and coarse grain marketed and shipped at points on our line in North Dakota and Minnesota.

Q. Will you read that progressively, please; read North Dakota first. Separating the wheat from the total grain, if you have them in that way; read the wheat first.

A. North Dakota, during the fiscal year ending June 30, 1902, 896,764 tons of wheat, and 1,215 240 tons of all grains including wheat. The same period, 1903, wheat, 954,922 tons; all grains, 1,390,031 tons. Same period 1904, wheat, 918,011 tons; all grains, 1,294 545 tons. Same period 1905, wheat, 1,013,688 tons; all grains, 1,310,942 tons. Same period 1906, wheat, 1,306,745 tons; all grains, 1,713,509 tons. Same period 1907, wheat, 1 222,402 tons; all grains, 1,613,507 tons. Same period 1908, wheat, 1,000,997 tons; all grains, 1,358,351 tons. Now, during the same periods in Minnesota: 1902, wheat, 784,-832 tons; all grains, 895,575 tons.

Mr. O'BRIEN: I want to ask you a question: Are you speaking of the amount hauled or the amount produced?

WITNESS: The amount hauled by our line from every point.

Mr. O'BRIEN: Oh, yes.

A. (Continuing.) The period of 1903 wheat 710,211 tons; all grains, 884,920 tons; 1904, wheat, 522,217 tons; all grains, 751,224 tons. 1905, wheat, 418,554 tons; all grains, 630,443 tons. 1906, wheat, 426,198 tons; all grains, 658 328 tons. 1907, wheat, 375,686 tons; all grains, 550,453 tons. 1908 wheat, 292,-442 tons; all grains 486,565 tons.

Q. Now, that statement shows, Mr. Maguire, not only a vastly superior tonnage in wheat and grain that North Dakota furnishes your line to that furnished by Minnesota, but a constantly increasing tonnage in North Dakota during the past seven years, and a constantly decreasing tonnage in Minnesota during the same period?

A Yes, sir.

Q. I ask you whether in your judgment, operating conditions being fairly alike, that furnishes an additional reason why you cannot raise the rate of progression for a long haul out of North Dakota to the eastern terminals over that for the shorter haul from Minnesota to eastern terminals without discriminating against North Dakota?

A. Well, that is one of the bases we have always considered, the large grain crops out there, in making that deduction.

Q. Then please answer my question yes or no.

A. It does; yes, sir.

Q. Mr. Maguire, the railway commissions of various states assert and exercise, as I understand it, the power of classification of freight moved over the railway lines?

A. Yes, sir.

Q. To what extent has the Minnesota Commission exercised that power of classification within your knowledged?

A. Why, at the present time, there are Minnesota exceptions to the Western Classification on about 242 items.

Q. That is to say, the Minnesota Commission adopts the Western Classification as a basis and has made exceptions from the classes or changes in the classes with regard to 242 items of merchandise?

A. Yes, sir.

Q. What has been the effect of those exceptions or changes in the classes—increase in the rates or decrease in the rates?

A. I think they were all decreases; I don't remember of any increases at all, I don't believe there were any.

Q. What does the Iowa commission do with regard to its exercise of its power of classification?

A. The Iowa Commission publishes a classification of its own.

Q. They have discarded the Western Classification and used one of their own creation?

A. Yes, sir.

Q. What does Montana do?

A. Montana does practically the same as the Minnesota Commission. At the present time they insist on the classification previous to the current one being accepted.

Q. Previous to the Western Classification?

A. Yes, sir.

Q. They do not, therefore, base their rates upon the Western Classification, but upon the old one?

A. The old Western Classification. There were some changes made in the new one which they would not allow.

Q. What does South Dakota do?

A. South Dakota makes exceptions to the current Western Classification in the same manner as Minnesota.

Q. What heretofore has been the effect of the Minnesota changes in classification upon your interstate traffic between Wisconsin, Minnesota, North Dakota and South Dakota?

A. Well, up to probably about two or three years ago the exceptions which the Minnesota Commission made were few, and when made we extended them to North Dakota, Minnesota state and interstate, Wisconsin and South Dakota; but of late years they have been so frequent and so many of them that we have had to ignore them, interstate or in the other states, with the exception of the interstate to points along the river.

Q. And Superior?

A. And Superior, Wisconsin.

Q. And you mean by the points along the river the border towns in North Dakota on the other side of the Red River?

A. Yes, sir.

Q. Your principal distributing points?

A. Yes, sir.

Q. I want to call your attention to the classification of oil—refined oil. Has Minnesota changed its classification from the Western Classification?

A. The Western Classification carries refined oil, lubricat-

ing, burning oil and gasoline, third class, in barrels; the Minnesota Commission made fourth class.

Q. That is, calling for a lower rate?

A. Yes, sir.

Q. Did Iowa take any action in regard to that?

A. Iowa and South Dakota and North Dakota all took the same action, applying the fourth class rate; we applied it, and applied it interstate.

Q. Between all those states to all of your interstate traffic?

A. Yes, sir.

Q. Do you know whether or not application has been made to the Interstate Commerce Commission also to change its classification from third to fourth class upon refined oil?

A. The Marshall Oil Company (I believe is the name of the firm) made an application and there was a hearing granted.

Q. With what result, if you know?

A. With the result that the Commission dismissed the case and declined to change it. Therefore, on some lines the interstate basis is the third class and the state on each side is fourth class.

Q. And your company has adopted fourth class for all its interstate business as well as state business?

A. Yes, sir.

RE-CROSS-EXAMINATION.

By Mr. O'BRIEN:

Q. Now, Mr. Maguire, I think that if we understand what we are trying to establish as a fact is this case, probably you and I will have very little dispute as to the actual conditions from which the final conclusion is to be drawn. Your position, as I understand it, is that the establishment of the Commission's order in Minnesota and the enforcement of Chapter 232, would necessitate the establishment of rates outside of Minnesota based upon the theory of progression or extension of the Minnesota

rates, which is shown in some of your exhibits?

A. I think that is true, so far as up to the eastern boundary of Montana, a condition that will eventually prevail, yes, sir.

Q. And that is true because of the practice of railroad companies, the practice of the Great Northern Company, and the laws, both federal and state, and the general geographical conditions?

A. That and the fact that we consider the transportation conditions about the same.

Q. Now, we at this time challenge that statement and assert that there is nothing in the practice of your own Company which proves that to be true, and that you have not followed any such system as you proposed, nor have you followed any one system in establishing rates. That was challenged by me at the last hearing, and these exhibits which you have now produced today are for the purpose of demonstrating that my statement or my claim is erroneous, is that right, do we understand each other?

A. If that is the way you understand it, we are; yes, sir; because these are the facts.

Q. Now, for the purpose of ascertaining which claim is correct, I will have to spend a little more time with reference to the practice than I had originally intended. Your road has established what is known as a distance tariff, has it not?

A. Yes, sir; we have several distance tariffs.

Q. Yes. Long before the Commission of Minnesota commenced ascertaining the circumstances surrounding these rates, your road had established what was known as a distance tariff for the territory included in Minnesota and North Dakota?

A. Yes, sir.

Q. Have you that tariff with you?

A. This was the tariff on page 125 of our G. F. O. 20,000.

Mr. O'BRIEN: I don't desire to read this into the record at this time or to make an exhibit of it, but I do desire to exhibit

it to the Master and to say that I am now calling attention to Great Northern Railway G. F. O. No. 20,000.

Q. G. F. O., I suppose, means General freight order?

A. Yes.

The MASTER: Mr. O'Brien, it seems to me that as much of that as you propose to refer to and use for the purposes of evidence in the case, and for the purpose of cross-examination, a copy should be made in the nature of an exhibit, or it ought to be read into the record. I suggest whether you can't proceed to use that with the understanding that a copy of so much as you make use of will be made in the form of an exhibit.

Mr. O'BRIEN: I suppose we can get any number of printed copies of this.

The MASTER: Perhaps you can get enough of that into the record.

WITNESS: I will be glad to furnish you with a supply, Mr. O'Brien.

The MASTER: I simply want before the Court all that comes before me.

Q. You will send us up a few copies of it, will you, Mr. Maguire?

A. Yes, sir.

The MASTER: Did you propose to offer them, Mr. O'Brien?

Mr. O'BRIEN: Yes, sir, I think I will offer them in evidence. I can offer the entire book in evidence, and probably we won't have to print it in the record. I think we can offer the entire book and either side, then, will be able to refer to it or print such portions of it as are necessary, the same as we have been doing with the maps.

Mr. HOW: I consent to that.

The MASTER: Perhaps it had better be marked as an exhibit in the case.

Q. Mr. Maguire, the original distance tariff to which I referred is found on page 122, is it not?

A. That tariff is the Commission's order, Mr. O'Brien.

Q. Well, where is the—

A. Page 125 is the old tariff. You understand, this is the current tariff.

Q. I understand that the tariff shown at page 125 is the tariff that was promulgated after the Commission's order went into effect.

A. This is the original old state and interstate distance tariff.

Attorney General YOUNG: It never has been changed.

Q. Yes, there has been a change; there is a change in the first item, is there not?

A. The only change made was the addition of the item of five miles in there, which shows the ten-mile rate, and that was put in because the Commission had shown five miles in their order, and it was stuck in for convenience so that the various distance tables would be uniform.

Q. Now, then, with that difference that a rate of 10 cents for five miles is shown, the tariffs shown at page 125 is precisely the same as the distance tariff which has been in effect upon the Great Northern road for a great number of years?

A. Yes, sir; it has been in effect since 1902.

Mr. O'BRIEN: The Court will understand that it is not this particular order, No. 20,000, which has been in effect since 1902, but this tariff shown at page 125 which is a part included in that order.

Mr. HOW: Excepting for the five-mile distance which has been added since the order of the Commission.

The MASTER: Is this the tariff now in effect, do I understand?

Mr. HOW: The distance tariff.

The MASTER: Yes, the distance tariff now in effect, and it has been in effect since 1902, except the modification as to five miles?

WITNESS: Yes, sir; and not locally in Minnesota. That tariff was effective January 25, 1902.

Q. You say this tariff was not in effect locally in Minnesota; that was because of the order of the Commission of September 6, 1906, that is in controversy here?

A. Yes, sir.

Q. This tariff of which we are now speaking on page 125 is a distance tariff established on that date for distances up to what length?

A. 700 miles.

Q. And included within the distance of 700 miles upon the Great Northern road are all the North Dakota stations?

A. I presume so.

Q. This distance tariff of which we are now speaking, found on page 125, is exactly the same as the order of the Commission of September 6th, with the exception that it applies to a different territory, that the rate of progression is not the same and the maximum rates prescribed are not the same?

A. Yes, sir; except this is a distance tariff between stations, and the Commission's order of September 6th was a terminal tariff with a formula for ascertaining the distance tariff.

Q. In other words, each of these schedules provide maximum rates for distances from five miles up, do they not?

A. Yes, sir.

Q. And simply afford a line or distance tariff beyond which the company may not go in establishing rates to particular stations?

A. Yes, sir.

Q. And in neither case—neither in the Commission's order nor in your distance tariff—does freight actually move upon the rates provided in those schedules unless they are supplemented by the specific rates which you put in from specific points to specific points?

A. Any specific rates published take precedence over the dis-

tance rates; yes, sir.

Q. Now, so far as all the rates from large distributing centers are concerned, this tariff has no other effect than simply establishing a line beyond which those rates cannot be increased?

A. Well, there was a separate tariff from the distributing centers, which was based on this tariff.

Q. And this tariff sheet would only be referred to by a station agent in case he could find no specific rate from a station to a station where goods were about to be shipped; then he would refer to the distance tariff; isn't that true?

A. Unless there was an error made in publishing a commodity rate which happened to be higher, in that case we would protect this particular rate, that is true.

Q. But what I mean is, that this distance tariff simply affords a maximum beyond which no other tariff goes?

A. Yes, it affords a maximum and it affords a great many rates of course; it is used for a great many rates.

Q. And the effect of the Commission's order in that respect is exactly the same?

A. Yes, sir.

Q. So that while they apparently differ in each detail the operation of each of them in establishing a dead line beyond which no terminal tariff is established, is exactly the same?

A. Yes, sir.

Q. And each of them is only a distance tariff in the respect of affording this maximum point beyond which the distance tariffs cannot extend?

A. Yes, sir; but they are used very extensively, of course.

Q. And neither of them are distance tariffs in the sense that a minimum rate is also provided?

A. They don't provide the minimums.

Q. So that the question of ascertaining the sufficiency or insufficiency of the rates to be established under the Minnesota

tariff, would be by ascertaining the maximum rate which you might charge under that tariff,—under the tariff establishing a fixed line?

A. I don't believe I understand what you mean.

Q. What I mean is that in ascertaining the revenue which could be earned under the Minnesota schedule you would have to determine what maximum rate you could fix under that schedule; that in some places you could not get the maximum because of the short haul; but in no instance would you go above it; isn't that true?

A. That is true; in no case do we get the maximum.

Attorney General YOUNG: To all stations, he means—

WITNESS: At all stations.

Q. And that is also true of your tariff?

A. Yes, sir.

Q. That it simply establishes the level beyond which you should not go?

A. Well, Mr. O'Brien, it establishes this: We have got, as I say, the Western Classification which classifies practically every commodity that is shipped. Now, we have the class distance tariff rates which is this: that establishes a rate on every commodity that is shipped practically; and then we have specific rates which are lower and which are used in preference to these rates.

Q. I am going to come to that in a moment. As a matter of fact, the amount of freight that is carried at the rates fixed in your distance tariff which is now before the Court, page 125, is negligible?

A. I should say not; no, sir; it is not negligible.

Q. Do you consider that of the Minnesota freight that is carried one percent of it is carried upon the distance rates found in this tariff we are now considering?

A. Why, I don't know what per cent, but every interstate shipment between the three states except from the jobbing

points and except the special commodity rates, is carried on this tariff.

Q. Well, of course, I was not speaking of any interstate rate.

A. It is a very general matter.

Q. I ask you of the Minnesota traffic, referring exclusively to the state traffic, is it not true that the amount of that traffic carried upon the distance tariffs is negligible?

A. The amount of merchandise carried is not by any means negligible. The tonnage is small in relation, because we have so many commodity rates on grain, coal and lumber and live-stock.

Q. Is not practically all the merchandise carried from the terminals or to terminals?

A. Very large interstation movement. I don't think it is as large as from the terminals, no. There is naturally a large movement, though, of course.

Q. Then, except the movement of freight between the outside stations in Minnesota, all of the freight is carried upon rates other than those distance rates found in this tariff?

A. Yes; of course, the outside stations are practically all of the stations except the large cities.

Q. Now, you had the tariff as a distance tariff which is shown at page 125, of G. F. O. 20,000, ever since 1902, with the exception of the first item shown there?

A. Yes, sir.

Q. And it was the only distance tariff published by your road in Minnesota from 1902 until the promulgation of the order of the Commission of September 6, 1905?

A. This was the only distance tariff, interstation distance tariff, and then we had another tariff showing the terminal distance rates.

Q. I am not speaking about terminal tariffs, I am speaking about distance tariffs.

A. Well, the terminal tariff is a distance tariff, too.

Q. Well, we will come to that after a while.

A. Eliminating that, this was the only class distance tariff we had.

Q. Your terminal tariff was the actual tariff between stations, wasn't it, specific tariff?

A. Our terminal tariff from the Twin Cities and Duluth shows specific stations, and the other terminal tariffs from St. Cloud, Moorhead and those points were distance tariffs, on the same basis.

Q. Had you in existence a terminal distance tariff in which the specific rates to specific stations was not shown?

A. Yes, sir; I have tried to tell you that several times.

Q. Will you produce that?

A. We have one office copy here, which is Great Northern G. F. O. 12,670, Minnesota Railway Commission No. 35.

Q. After the order of the Commission of September 6, 1906, that distance tariff for Minnesota was promulgated?

A. Yes, sir.

Q. And that is found at page—

A. 122.

Q. And the distance-tariff which I have shown as being at page 125 was changed by inserting at the beginning the first item—five miles, rate 10 cents—and was then reissued in that amended form?

A. Well, the five miles were put in there, I don't know just at what date. Mr. O'Brien, simply for the sake of uniformity; it was not considered very important, subsequently to the Commission's order.

Q. That distance-tariff, as maintained, both before and after the promulgation of the Commission's order, does not agree with the Commission's order, does it?

A. This interstation distance-tariff previously in effect and still in effect, interstate, does not agree with the Minnesota

Railway Commission's distance-tariff.

Q. And, therefore, when it was reissued with the amendment I have spoken of, after September 6th, its effect and operation was confined to the points and localities described in the caption at page 125?

A. Yes, sir.

Q. First, between stations in North Dakota; second, between stations in South Dakota where the mileage is not entirely within the state of South Dakota; third, between stations in Minnesota where the mileage is not entirely within the state of Minnesota; fourth, between stations in Wisconsin; fifth, on traffic interchanged between the states of Minnesota, North Dakota, including Mondac, Montana, South Dakota, Iowa and Wisconsin; sixth, between stations in Iowa on interstate traffic.

The MASTER: All interstate?

Mr. O'BRIEN: No, sir; all interstate outside of Minnesota.

The MASTER: Yes.

Mr. O'BRIEN: All interstate except in points in North Dakota.

Commissioner STAPLES: It is a North Dakota tariff.

The MASTER: It doesn't cover any business between Minnesota and any of the other states?

Mr. O'BRIEN: No, sir.

WITNESS: It covers all the business except local in Minnesota.

Q. It covers all the business?

The MASTER: It covers everything except locally in Minnesota.

WITNESS: Yes, sir.

The MASTER: That is what I meant.

WITNESS: Locally in South Dakota, where they have another Commission rate.

The MASTER: That is right; I understand it.

Q. This tariff covers the local business in North Dakota?

A. Yes, sir.

Q. The local business in Wisconsin?

A. When we have any.

Q. And interstate business between Minnesota, North Dakota, South Dakota, Wisconsin, one point in Motnana, or any one of those states?

A. Yes, sir; it is the general basis for that condition.

Q. In North Dakota you have no other distance-tariff except this one, have you, published?

A. No.

Q. But in South Dakota you have a distance-tariff for that state alone published, have you not?

A. Yes, sir.

Q. Now, do any of those distance-tariffs exactly agree?

A. No, sir.

Q. What compulsion are you under in regulating your interstate rates to follow what you claim to be an erroneous theory in the Minnesota tariff rather than the theory of the South Dakota tariff or the theory of your own distance tariff maintained for the state of North Dakota or the distance tariff maintained for South Dakota or for Wisconsin, or the distance tariff which you have established for interstate business and which you are now and have been since 1902 maintaining?

A. I dont know just how to answer that. That is a pretty broad question. The general distance-tariffs prior to these orders of the various Commissions of Minneosta and South Dakota were uniform within the three states where we considered the transportation conditions the same, and the lower tariffs put in by the two Commissions were limited just as much as possible in the spirit of self-preservation, because the rates were considered too low. I don't know what else I can tell you.

Q. Mr. Maguire, not only have you shown that different states declined to follow the rates established in other states,

but as a matter of fact, you don't follow the rates which you established yourselves in your distance-tariff?

A. We follow them quite as much as we follow the rates established by the Commission, as a rule.

Q. You can't carry on business if you follow these rates, can you?

A. We cannot very well establish these rates as the actual rates for every mile; no, sir.

Q. I now call your attention to Ex. 46, and take the third column which is the distance-tariff as shown upon this distance-tariff on page 125.

A. The third column is the terminal distance shown on the basis of the tariff on page 125.

Q. And the second column is the—

A. The tariff on page 125.

Q. Now, from ten to fifteen miles you raise the rate three cents?

A. Yes, sir.

Q. That is three cents for a haul of five miles?

A. In the straight terminal tariff; yes, sir.

Q. From fifteen to twenty miles it is raised three cents?

A. Yes, sir.

Q. From 20 to 25 miles three cents?

A. Yes, sir.

Q. 30 to 35 miles three cents?

A. Yes, sir.

Mr. HOW: This is on first class, all of it?

Mr. O'BRIEN: Yes.

Q. From 35 to 40 miles two cents?

A. Yes, sir.

Q. After you reach 35 miles you allow only two cents for each five-mile haul?

A. Yes, sir; up to 60 miles.

Q. And from 60 miles up to 100 miles you allow how much?

A. From 60 miles on we allow one cent.

Q. For each five miles?

A. Yes, sir.

Q. In the actual tariff, though, the five miles are not separated, each five miles is not separated; it amounts to one cent for each five miles, but the increases are given for distances more than five miles apart, are they not?

A. They are given for five miles absolutely.

Q. All the way through?

A. Yes, sir.

Q. Now, under that tariff there would be a regular line (if we are making a graphic table there would be a line) at a regular gradation up to 35 miles, then the raise would be somewhat different until you reach 60 miles in the rate progression, and from 60 miles on it would be exactly the same?

A. Yes, sir.

Q. Which would indicate that when you reached 60 miles you had reached the greatest economy in haul?

A. My judgment is that the progression should decrease with the distance.

Q. Yes, but it does not in that tariff?

A. It does not in this tariff.

Q. After you get to 60 miles?

A. No, sir; it is the same from 60 miles.

Q. Now, do you know that every practical man who has so far testified in this case considers that you have not reached the highest economy of haul at 60 miles?

A. I didn't hear the testimony.

Q. You have never considered that?

A. I didn't hear the testimony; no, sir.

Q. Well, have you ever considered that question?

A. Yes, sir, somewhat; I never considered that sixty miles though—

Q. Afforded that distance?

A. I don't know as I know, or am in a position to judge.

Q. Now, in the order of the Commission the same rate of progression is maintained for 100 miles?

A. Yes, sir; I believe so.

Q. Then a lower rate of progression for the next 100 miles?

A. Yes, sir.

Q. Now, when you come to your terminal tariffs established under this tariff that I have spoken of here, we find the rates put in which are shown under the word "rate" in Ex. 46?

A. Yes, sir.

Q. And counting straight from the left-hand side of the page, the sixth column?

A. Yes, sir.

Q. Now, for ten miles your terminal rate agrees with the tariff?

A. Yes, sir.

Q. At the point 98 miles, which is put opposite the corresponding point of 100 miles, the rate under the terminal tariff is 41 cents, the distance tariff 43 cents?

A. Yes, sir.

Q. When you get to 200 miles Shevlin, 199 miles, the rate of the distance tariff is 63 cents and the terminal rate is 60 cents?

A. Yes, sir.

Q. Then when we get to 300 miles, Grand Forks, 298 miles, the rate is 67 cents, while under the distance tariff it would be 83 cents?

A. Under the straight distance-tariff, 83 cents; yes, sir.

Q. But the actual rate is 67 cents?

A. The straight distance-tariff would not apply in that case under any consideration. The terminal distance tariff, or the terminal specific.

Q. Have you a point in Minnesota distant 300 miles from the terminals upon which a higher rate than 67 cents is charged?

A. Yes, sir.

Q. Where?

A. Noyes, for instance—St. Vincent.

Q. Where is Noyes?

A. At the Dakota line.

Q. It is over 300 miles?

A. Yes, sir; Noyes is in Minnesota.

Q. But it is much more than 300 miles?

A. 381, isn't it? It is right there at St. Vincent. The distance from Duluth to St. Vincent is 363 miles and the rate 91 cents.

Q. Now, what I asked you was, have you a point not more than 300 miles from the terminals in the state of Minnesota upon which your rate for merchandise of the first class is more than 67 cents?

A. I think we have a good many; I can find them if you wish.

Q. Do you reach a point in Minnesota where the distance is more than 300 miles before you reach Grand Forks?

A. No, sir; I think not.

Q. Is there any point on your road upon which you charge a higher price for a short haul than you do for a long haul, the shorter haul being included in the longer haul? That is, having once established a rate from St. Paul to Grand Forks of 67 cents, can you charge a higher rate at any intermediate point? That is what produces blanketing, isn't it?

A. You can't under the Minnesota law, no, sir.

Q. Nor if it was an interstate haul, you couldn't under the federal law without permission from the Interstate Commerce Commission?

A. Yes, sir; we could.

Q. Could you?

A. Yes, sir.

Q. Well, I disagree with you on that.

Mr. HOW: Well, I stand by him.

WITNESS: I mean that we could and do.

Q. Without permission of the Interstate Commerce Commission?

A. Yes, sir.

Mr. HOW: Yes, sir; the law permits it.

WITNESS: There isn't any question about it.

Q. Well, you don't do it in Minnesota?

A. We don't do it very much anywhere, Mr. O'Brien.

Q. You don't do it in Minnesota?

A. No, sir; I think not.

Q. That is one of the things you complain of in this case that you are compelled to blanket your rates in the manner you have described, and therefore your total revenue is less?

A. I was explaining the conditions as they previously existed and the reasons for them.

Q. Now, just keep to those conditions—

A. Yes, sir.

Q. —because if it is a fact, when we come to consider the sufficiency of your rates it ought to be a fact when we come to consider the rates themselves. Now, is there any point, then, that you know of, in the state of Minnesota which is less than 300 miles or not more than 300 miles distant from the Twin Cities upon which you obtain a rate of more than 67 cents upon merchandise of the first class?

A. I haven't the tariff with me, but I am sure there is.

Q. Haven't you got your terminal tariff with you?

A. I haven't the old terminal tariff; we have it bound in a book; we have the line, it occurs to me, right up on the branch north of Crookston, on the St. Vincent line, where that condition would be in existence.

Q. Of course, you understand that I am speaking of the rates from the terminals, or possibly the Twin Cities?

A. Yes, sir; that is what I am speaking of. Our rates from Duluth—

The MASTER: Perhaps the witness could name some of those places by 2 o'clock.

WITNESS: I am sure I can.

Recess until 2 P. M.

AFTERNOON SESSION.

Q. When we adjourned at noon, Mr. Maguire, you were to ascertain whether or not you had any stations in Minnesota within a radius of 300 miles from the Minnesota Transfer to which the rates upon merchandise of the first-class exceeded 67 cents per hundred.

A. Yes, sir. I took a hurried look over the tariff, and we found from Duluth to Euclid—286 miles—It was over 300 miles, wasn't it?

Q. About or under 300 miles from the Twin Cities.

A. Nashwauk from Minneapolis 261 miles 71 cents.

The MASTER: Is that on the Pipestone division?

WITNESS: That is on the iron range road. It is difficult to get a mileage that extends from Minneapolis. Moore, 256 miles, 70 cents.

The MASTER: Where is that?

WITNESS: That is on the range also. I didn't get many from Minneapolis. I looked for Duluth more particularly. These exhibits were made on Duluth; I have quite a number here from Duluth. In the northern part of the state, the Duluth mileage is the governing mileage. Warren, for instance, on the St. Vincent line, is 303 miles from Duluth; the rate is 74 cents. Argyle, on the same line, 313 miles, is 77 cents. Stephen, 321 miles, 80 cents. Angus, 294 miles, 71 cents. Euclid, 286 miles, 70 cents. Cottonwood, 248 miles, 69 cents. Green Valley, 255 miles, 70 cents. Marshall, 260 miles, 71 cents. Lynd, 267 miles, 73 cents.

Q. Nashwauk is on the iron range?

A. Yes, sir.

Q. The haul from St. Paul to that place would be an interstate haul?

A. Yes, sir.

Q. And what is the distance of Nashwauk from Duluth?

A. 127 miles.

Q. And what is the rate from Duluth?

A. 36½ cents.

Q. Warren is on the road extending from St. Vincent to Crookston?

A. Yes, sir.

Q. That is the branch of the road running up through the northwest corner of the state?

A. Yes, sir.

Q. And is one of the places where you have got beyond the 67-cent blanket that you spoke of?

A. Yes, sir.

Q. And where you have commenced to grade up your rates as rapidly as possible?

A. Yes, sir; we might have graded them up a little bit more rapidly.

Q. Argyle, Stephen, Angus, Euclid, are all upon the same line, are they not?

A. Yes, sir.

Q. Cottonwood is located on the southern branch, that is, on the Willmar and Sioux Falls?

A. It is on the Willmar & Sioux Falls Division; yes, sir.

Q. And Green Valley, Marshall and Lynd, are all upon that same branch of the road?

A. Yes, sir.

Q. None of the stations that you have mentioned are upon the main line of the Great Northern Railway System between the Twin Cities and the coast?

A. We leave the state of Minnesota on all of our main lines to the coast at very much less distance.

Q. None of the stations which you have mentioned where you say you had a higher rate than 67 cents, where the haul was less than 300 miles, are upon any of the main lines extending from St. Paul to the coast?

A. No, sir; for the reason that I just gave.

Q. The road running through Warren and Argyle from Crookston north is one of the branches of the system, is it not?

A. I think we could term it a main line; it is a very heavy line. It is a line we use to Winnipeg.

Q. The same is true of the road running up into the iron range and the Sioux Falls?

A. The iron range is more of a branch; the Willmar & Sioux Falls is not a branch in the broadly accepted term.

Q. In the Willmar & Sioux Falls road, establishing the rates along there, the object was to meet the competition of the lines crossing the Willmar & Sioux Falls branch, was it not? Upon merchandise you fixed the rates which those roads had?

A. The rates shown here from Duluth are based on the old terminal tariff as a maximum. There may be a few little reductions. We are the short line from Duluth to those points. The rates were practically based on the distributing rate from Duluth.

Q. I again call your attention to Ex. 46, and after you have made the examination that you have upon the question and presented these stations, there is no station upon the line of road between St. Paul and Grand Forks upon which a higher rate is charged than 67 cents per hundred pounds for merchandise of the first-class, is there?

A. No, sir.

Q. Eliminating the Commission's order altogether, if we desired to ascertain the distance tariff upon that line of road, we would find that from column 2 of Ex. 46, would we not?

A. The straight distance tariff; yes, sir.

Q. Which would give us at Grand Forks a rate of 83 cents

per hundred pounds for merchandise of the first-class?

A. Yes, sir.

Q. If we desired to ascertain your terminal tariff upon that line of road, we would have to examine the sixth column, under the heading "Rate," and we would find your terminal tariff there 67 cents?

A. That is the specific rate.

Q. The specific rate?

A. Yes, sir; in the blanket territory.

Q. And that is 298 miles from St. Paul. Now, running back along that line 'till we get to Verna, 98 miles from St. Paul, we would find that the rate there was 41 cents?

A. From Duluth; yes, sir.

Q. At Shevlin, 199 miles, we find that the rate is 60 cents?

A. Yes, sir.

Q. So that, so far as those terminal rates are concerned, upon that line you charge, if we pick the specific rates by the stations nearest to these distances, we find that at 100 miles the terminal rate is 41 cents?

A. Yes, sir.

Q. At 200 miles the terminal rate is 60 cents?

A. Yes, sir.

Q. At 300 miles the rate is 67 cents?

A. The normal rate is 79 cents; the rate in this instance to Grand Forks is 67 cents.

Q. We find the terminal rates charged by you to Grand Forks and in force to be 67 cents?

A. Yes, sir.

Q. An increase of 7 cents for 100 miles. Now, when we come to Devils Lake, 386 miles, something less than an additional 100 miles, we find the rate to be 96 cents?

A. Yes, sir; that is the normal basis.

Q. That is, 29 cents additional was made for that last haul?

A. Yes, sir.

Q. And when we arrive at Minot, 504 miles, we find a rate of 115 cents?

A. Yes, sir.

Q. 19 cents being allowed there for about 120 miles?

A. Yes, sir.

Q. Then when we come to Ray, 597 miles, we find a rate of 133 cents, being an addition of 18 cents for between 90 and 100 miles?

A. Yes, sir.

Q. Do you know of any regular rule or rate of progression which can be deduced from those rates?

A. I don't know of any rule or rate of progression that can be deduced from competitive rates; no, sir.

Q. After you leave Grand Forks, until you reach Avoca, are you still in competitive territory?

A. Yes, sir; the rate at Minot is a competitive rate.

Q. Competition with the Soo?

A. Yes, sir; they set the rate at $1.15. Our rate normally would be $1.18.

Q. Even at that, this situation would not be changed with regard to the fact that you charge a considerable sum for the first hundred miles out of Grand Forks and different sums for the next run of 200 miles.

A. It is just the case of not using the maximum rate, it is meeting the competitive condition, the same as we do now up there.

Q. It is only lately that the Soo has been built there?

A. At Minot? No, sir; it has been built there a great many years. It is on their main line.

Q. Are the distances particularly different on the Soo road than on your road?

A. Theirs is less.

Q. It is not very much less, is it?

A. No; it only makes a difference of three cents in the rate.

Q. That would not make the difference in the proposition I asked you about—whether or not any rule or regular rate of progression can be deduced from your terminal rates?

A. I tried to explain that by dictating an example. You get your normal basis, and where your competitive conditions enter, you leave your normal basis and then you get back into your normal basis. Now, there is no rule that I know of where you can apply competitive rates on a hard-and-fast rule except to meet the competition and to protect the communities on your line.

Q. What is the competition that you have to meet at Grand Forks?

A. That is all explained in the testimony regarding a blanket that I took pains to write up so it would be clear and concise.

Q. What competition is it that you meet at that point?

A. You mean what other lines run in there? The Northern Pacific runs in there.

Q. I asked you what competition you met at that point.

A. We get the competition—

Q. Does the Northern Pacific run in there?

A. Yes, sir.

Q. So that you have whatever competition there is between the Great Northern and the Northern Pacific?

A. I will read this over again, Mr. O'Brien if you desire.

Q. No, I would rather you would answer the question. You have whatever competition there is between the Great Northern and Northern Pacific?

A. Yes, we have the Northern Pacific there; that is the only other line there.

Q. Well, that has not been a particularly disastrous competition for the last few years, has it?

A. Quite the same as any other competition.

Q. You would not consider it very unfair or strict competition, would you?

A. I consider it just as strict as any other competition that I know of, so far as I am concerned, and the men in the traffic department.

Q. Do you think that the competition between the Great Northern and the Northern Pacific has been as open, as persistent, as vigorous and as free as any other competition that you know of?

A. I think that the competition between the Northern Pacific and the Great Northern is a fair measure for any other competition that we have.

Q. Well, I didn't know that there was such harmony between all the roads.

A. There is not very much harmony between the Great Northern and the Northern Pacific traffic departments, and we are the ones that are responsible for getting the business.

Q. Then, you have the competition between Grand Forks and Fargo?

A. Yes, sir.

Q. That is what you would call competition between communities?

A. Yes, I think we called it that at that time. Conditions have changed a little bit now.

Q. And you would feel the obligation upon you of giving Grand Forks as low rates as was possessed by Fargo?

A. I think that we will, eventually, yes, sir; there is a great deal of outcry now for that condition.

Q. It is, of course, necessary for the success of the road, that you protect the communities located upon it from the competition of other communities, isn't it?

A. Yes, sir; we try to.

Q. And where you find that necessity exists, you endeavor to provide for it?

A. Within reason; yes, sir.

Q. Now, coming back again to the competition between the

Great Northern and Northern Pacific, there are many stations in Minnesota in which you do not solicit business at all, are there not—leave it to the Northern Pacific?

A. I don't know of a single station, no, sir, and I don't think there is one.

Q. Now, you are more or less familiar with the distance tariff established by law in the State of Iowa?

A. Why, I have not looked it over for some time, but I have seen it from time to time. Our line in Iowa is so very insignificant and small that we do not have occasion to look at it very much.

Q. You know, however, that that is what might be called a rigid or flat distance tariff?

A. Yes, sir.

Q. Not the same form of distance tariff that is prescribed here, and under consideration in this case?

A. No, I don't think it is the same kind of a tariff. This is a sort of a maximum tariff, and that is not; that is more of a rigid tariff.

Q. In other words, in Iowa if a road or any part of a system hauls commodities at a given rate, it cannot charge a greater distance upon any other portion of the line, can it?

A. That is, on a straight local Iowa shipment.

Q. Or a straight Iowa distance shipment?

A. I believe that is the law there.

Q. And it is a distance tariff, pure and simple?

A. Yes, sir.

Q. This tariff in Minnesota is entirely different, as I explained before, except as to the allowance made for distances and except as to the manner in which it is graduated, it is the same as the distance tariff maintained by you voluntarily prior to the order of the Commission?

A. Yes, sir; I would consider it that way.

Q. Well, I don't know that any of us have thoroughly un-

derstood that, and I am free to confess that I did not myself—

A. The maximum rates, Mr. O'Brien.

Q. —it has been a great satisfaction to me to have that explained in this case now. And under the Minnesota tariff, you have the privilege of meeting all the competition at different points that you see fit.

A. Yes, sir; with the Commission's consent.

Q. The Illinois distance tariff, or the Illinois public schedule of rates is upon still another plan, is it not?

A. It has been so long since I have looked into that that I don't believe that I am competent to state; we have no lines anywhere near Illinois. I know they publish a classification and they carry a distance tariff right in front of the classification.

Q. You have quoted some rates here, the traffic for which originated in Illinois, for instance, the coal rates.

A. That has nothing to do with the local Illinois rates.

Q. The Illinois law has nothing to do with the local rate between St. Paul and—

A. Not if a through rate is established—which is the case.

Q. And if a rate were established from Duluth to Iowa, the distance tariff in Iowa would have nothing to say to that through rate?

A. No, sir; not in the through rates.

Q. Nor has the Iowa distance tariff or the North Dakota distance tariff anything to say with regard to the rates from the Lake Superior points down from Duluth, Ashland, Gladstone and those different points—those are all fixed upon another basis, altogether?

A. They are fixed separately, but of course no through rate, in my estimation, under any consideration should be higher than the sums of the locals, on account of the tremendous discrimination that such a condition yields.

Q. And your through rates from here into Dakota at the

present time upon merchandise are the same as the sum of the locals? No higher than the sum of the locals?

A. Why, I think we have a few places which we have discovered are a little higher than the sums of the locals. Yes, sir.

Q. And under none of the circumstances connected with this case, have you changed your distributing rates in North Dakota; that is, your rates from Fargo to Grand Forks and any jobbing center in North Dakota to interior points in Dakota?

A. Why, the conditions relative to jobbing into North Dakota have never been quite the same as in Minnesota.

Q. If my question is a fair question, I wish you would answer it. Did you change it?

A. I don't think we did. I think the Interstate distance tariff still applies.

Q. But your local rates in Dakota were not changed at the time you changed these orders of the Commission?

A. The local distance rates in North Dakota?

Q. Yes.

A. No, sir.

Q. And have not been changed until the present time?

A. Still in effect.

Q. You know of nothing in railroad practice or in law that would prevent you establishing a rate from St. Paul to Minot which would not be greater than the rate from St. Paul to Grand Forks, and the local rate from Grand Forks to Minot, do you?

A. I don't know anything about the law, but I should say that a rate of that kind would be too high.

Q. Do you know anything in railroad practice or in law that would prevent you establishing a rate of that sort, a rate that would be equal to the rate from St. Paul to Grand Forks and the present local rate from Grand Forks to Minot, that would not exceed the sum of the locals; would it?

A. In railroad practice, such a rate would be too high.

Q. That would not exceed the sum of the locals,—that was the test you made a while ago.

A. Well, the sums of the locals, of course, compared with the through rate, is too high, also. You have four terminal charges and two local rates, and the rates should be lower.

Q. The test that you made a while ago, or the exceptions that you made, were that it should not be greater than the sums of the locals. Now, when I give you a concrete case, you say the sums of the locals is too high.

A. You gave me a concrete case, with the distance tariff in Illinois compared with the coal tariff from Illinois to St. Paul.

Q. I don't remember that as one of the cases I gave you; the only question I asked you as to a specific rate that I know of was this question of the rate from St. Paul to Grand Forks, and Grand Forks to Minot. With the exception of the terminal charge that you speak of, one terminal charge, do you know anything in railroad practice or in law which would interfere with your establishing a through rate on the basis of the sum of the locals?

A. No, sir; sometimes through rates are established on that basis. They should not be, though, where the transportation conditions are the same, in my opinion.

Q. The result of all of this is that where you receive freight from the east destined to a point north or west, or beyond the Minnesota Transfer, the through rate is so adjusted that you receive your entire local rate from the Twin Cities to that point, isn't it?

A. As a rule, it is; St. Paul is a basing point.

Q. So that you tack on to the Minnesota Transfer your local rate?

A. Yes, sir; we tack on the Minnesota local rate as made by the Commission.

Q. Supposing you were fixing a rate from St. Paul to Minot, wouldn't it be entirely equitable and just for you to do the same

thing at Grand Forks—tack on the local North Dakota rate and thus establish a rate from St. Paul to Minot, based upon the sum of the locals?

A. I shouldn't think so.

Q. Do you know whether your present rate to Minot is greater or less than the local rate in North Dakota from Grand Forks to Minot, plus 67 cents, on merchandise of the first-class?

A. The combination would be $1.26 and the through rate is $1.15.

Q. If you feel that you are justified in charging your full local Minnesota rate as a part of the through rate from Chicago to points in Minnesota, why are you not justified in charging the full Dakota rate from Grand Forks to points in North Dakota?

A. I want to make a correction. The present rate is $1.10 to Minot instead of $1.15.

Attorney General YOUNG: That is because of competition with the Soo?

WITNESS: Yes.

The last question was here read to the witness.

WITNESS: Well, in the first place, we don't run to Chicago; in the second place, we consider that the transportation conditions warrant and necessitate a rate made on the same progression as we use for that distance up to Grand Forks; for instance, it should not, certainly, be higher with the distance under similar transportation conditions.

Q. The Burlington line, of which half of the stock is owned by the Great Northern and half by the Northern Pacific, does run to Chicago, does it not?

A. Yes, sir; but it is not operated by the Great Northern nor by the Northern Pacific.

Q. No, of course not.

A. We do a great deal of business with all the other lines, you know. It is operated separately, entirely and independently.

Q. And there is complete competition there, I suppose; is there?

A. Where, Mr. O'Brien?

Q. On the Burlington, in the matter of the division of through rates and matters of that sort?

A. With us, with the Great Northern?

Q. Yes.

A. I think they are substantially the same as in respect to the other lines.

Q. Of course there are places along the line of the Burlington road where the Great Northern and the Burlington systems are competitors, are there not, in the West?

A. Why, we have a branch down to Billings that the Burlington reaches, and we meet the Burlington line at Sioux City; otherwise we don't touch them except at the Twin Cities.

Q. Now, of course you understand, Mr. Maguire, that we are not speaking of the identity of carriers, or the identity of particular organizations, we are still speaking of the compulsion which you assumed rested upon the Great Northern road of adjusting all of your rates upon the basis of the Commission's order and of Chapter 232 and upon the extension of those rates in the manner in which you claimed—

A. Yes, sir; I think that the rates—

Q. —and you think that is necessary?

A. I think it is in Minnesota and North Dakota, as a maximum.

Q. And when you speak of that matter as a matter of compulsion, all of those legal technicalities, as to whether or not the Burlington road was incorporated at one time, and the Great Northern road incorporated at another time, would cut no figure?

A. It doesn't make any difference to us.

Q. We are speaking of compulsion here, a legal compulsion.

A. I don't know about the legal compulsion at all, Mr.

O'Brien; I am simply giving our best judgment.

Q. You don't claim that there is any other compulsion, do you?

A. To do what?

Q. To adopt the Minnesota schedule.

A. We have not adopted the Minnesota schedule in North Dakota.

Q. Or to extend the Minnesota schedule. You don't claim that, as a practical railroad matter, it is any more compulsory upon you to adopt the Minnesota schedule in North Dakota than it is to adopt the North Dakota schedule in Minnesota?

A. Well, not in that way, no, sir; but a schedule adopted in Minnesota that is extended where the progression is higher in North Dakota I think is an unfair schedule and never will stand very long. It might stand for a little while, but it is wrong. I am of that opinion and all of our people are of that opinion.

Q. Do you think your present schedule is a fair schedule?

A. No, sir; I am sorry to say it is not.

Q. Well, I don't know, then, on that point exactly what you claim as opposed to the Minnesota schedule any more than to your own schedules. I can assure you that there is no assumption indulged in by the public authorities that they are the only ones that know anything about the subject or the only ones who can prepare a perfect schedule, or that the schedule prepared by them is not open to criticism upon minor points. The test you make in establishing rates is what rate can be obtained in each specific instance, taking into consideration what is fair to that community, what will bring your road traffic and maintain it there, is it not?

A. Not altogether; not what we can make,—we have made a good many voluntary reductions in fact of our own rates.

Q. You didn't listen to my question.

A. I thought I did.

The last question was read to the witness.

Q. I call your attention to the fact that I said what you consider fair to the community.

A. Yes, that feature of it is clear. The only objection I have to it would seem to be that you are trying to get us to say that we, in every case, made the rate as high as we could possibly secure, which I would not want to admit. That is what I understood, Mr. O'Brien.

Q. I thought you had overlooked the fact that I said you took into consideration what was fair to each community. Taking that into consideration, is it not true that you consider each rate in the way I have mentioned?

A. I will have to ask you to read that question.

Q. I will change it again. In establishing rates upon your road, after you have satisfied yourself as to the highest rate from a specific community which would be fair to that community, your next consideration is what rate can you obtain and at the same time procure your share of the traffic and hold it?

A. Well, that is true in a measure. I would not express it just that way; I don't think it is the highest rate necessarily. We try to make the fairest rate.

Q. As a matter of fact, the rates upon your line into Dakota from St. Paul and Minneapolis, from the terminals, is lower than the sum of the locals?

A. It should be lower. In most instances it is, and in a few instances we found, recently, it was a little higher.

Q. The result of that is that a merchant doing business in Grand Forks and buying his goods in St. Paul paying the local rate from St. Paul to Grand Forks and the local rate from Grand Forks to Minot, when he sold his goods he would pay more for the transportation of those goods than would a wholesale merchant in St. Paul shipping direct to Minot?

A. Yes, sir; he would be making two shipments instead of one.

Q. And the difference there, if I remember right, was 16 cents?

A. Yes, sir; under the old adjustment. The condition is not quite as you stated. You gave me an example taking 67 cents and adding the local west, and comparing it with the present rate.

Attorney General YOUNG: That was a case where the Soo road made the rate, wasn't it?

WITNESS: Yes.

Q. Well, aren't those the rates?

A. That is not the present rate; no, sir.

Q. The sum of the local rates from St. Paul to Minot by way of Grand Forks, I understood you to say would be $1.26.

A. The first-class rate.

Q. This is all based on the first-class rate?

A. Yes, sir.

Q. So that a St. Paul jobber could ship from St. Paul to Minot, merchandise of the first-class in less than carload lots for $1.10?

A. Yes, sir.

Q. While a Dakota merchant located at Grand Forks purchasing goods in St. Paul and reshipping them at Grand Forks to Minot, would pay $1.26?

A. Yes, if he ever did such a thing in that manner. Of course he does not buy his jobbing material at Minot in less than carload quantities in the Twin Cities, he buys them in carloads and ships out in less than carloads, but if a small shipment is shipped them to Grand Forks, and then reshipped from Grand Forks to Minot, he would have to pay $1.26 for both the shipments.

Q. And that would be much more than the additional terminal charges.

A. Why, the difference is 13 cents.

Q. What difference is 13 cents?

A. The difference between the through rate and the sum of the locals on Grand Forks.

Q. 16 cents, isn't it?

A. 16 cents; yes, sir.

Q. And that is much more than the additional terminal charges?

A. I don't know what the terminal charges are; I think they are arbitrary.

Q. Do you know what the terminal charges are, either in Minnesota or in Dakota?

A. I can figure out the terminal charges on any distance tariff that you ask. What the actual cost is, I don't know.

Q. Well, of course I was not asking you what the actual cost was, I was asking you the amount included. Now, what is the terminal charge in Minnesota upon the present distance tariff? That would be page 125.

A. On the terminal tariff?

Q. Yes; take it upon page 125.

A. That is the Interstate distance tariff.

Q. Well, that is the only distance tariff you have in Minnesota except the order of the Commission on merchandise?

A. Yes, sir. Well, I should figure the terminal allowance here four cents, first-class.

Q. Now, how do you do that?

A. When this tariff was made there was no specific rate mentioned for five miles, as previously explained; in fact, all our tariffs started at ten miles. We have a set rate of 10 cents for a ten-mile haul, which included the terminal allowance. The next rate we have set for a 10-mile haul is 20 miles, 16 cents. The difference between 10 and 16 is 6, which represents the 10-mile haul, leaving 4 cents for what might be termed a terminal allowance.

Q. Well, now last week, you tried to ascertain that, and you commenced with a terminal charge of 9 cents, then you

thought it was 7.

A. It was not on this tariff at all.

Q. Subsequently you announced that your terminal tariff was 5 cents.

A. It is not the terminal tariff, this is the distance tariff.

Q. Now, you have found it is 4 cents in this tariff?

A. The distance tariff is 4 cents, the terminal tariff is 5 cents.

Q. We have all agreed, I believe, that the terminal charge allowed by the Commission's order is 11 cents.

A. 11.02 cents.

Q. The result of that is that the terminal charges allowed under the order of the Commission are greatly in excess of the terminal charges made by your road under any of these conditions.

A. Well, the Commission have allowed a larger terminal allowance in their tariff; yes, sir.

Q. Therefore, by taking advantage of that fact, and deducting the terminal charge from what you describe as the hauling charge in the Commission's order, or in Chapter 232, you obtain a disproportionately small hauling charge?

A. In the Commission's tariff?

Q. Yes.

A. You obtain a very much smaller progression than you obtain in our tariff.

Q. Then when you propose to extend—

A. But you don't do it, Mr. O'Brien, particularly by the terminal allowance. I don't see what that has got to do with it.

Q. Then when you propose to extend that in the manner shown by your exhibits—not the ones you presented today, but your exhibits 40, 41, 42 and along there, you of course obtained a very low rate for that extended portion.

A. Why, the extended portion was very low, principally I think because the progression was extremely low for the last one hundred miles.

Q. Now, if this tariff is to be considered by itself as applied to the traffic covered by it, it doesn't make any practical difference in the amount of revenue derived by the road whether the charge is made for a terminal, whether we call the charges terminal expenses, or whether we call the charges hauling charges, you haul so much freight and you get so much money, don't you?

A. Yes, sir.

Q. And the result of it is that all of this elaborate, theoretical extending of the rates has no practical benefit at all to anybody?

A. I don't know what you call the elaborate, theoretical methods. I do know that—

Q. Well, I will leave out the adjectives because I am not endeavoring to say anything unpleasant or to irritate you, but to keep to what I proposed this morning, so that we can agree on the facts and then let the Court draw the conclusions.

A. Why, the other exhibits, where we showed five methods of progression, were simply given to show just what they would do; I didn't attempt to say that any of them were absolute, and if I did, I would say that the lowest was the most consistent and reasonable on account of the progression.

Q. They furnish an excellent method for mental development, but so far as determining what rates your road would receive in Minnesota from the transportation of freight, they show nothing at all?

A. I can't answer that, because I don't know which one you have in mind. We have a great many here; some of them are very, very good, and some of them might be called theoretical.

Q. And aside from their value as methods of mental exercise, you know of no value they have at all, do you?

A. The exhibits we have placed in today have got great value, because they show the actual facts which obtain.

Q. You know I was not talking about the exhibits today; I

said these theoretical examples of extensions of these rates. Now, if we should endeavor to extend the rates maintained in Iowa, on the Iowa distant tariff, or the rates maintained in Illinois for many years under the laws of Illinois, we would find just as many inconsistencies and just as many differencies as you have shown would exist if you extended the Minnesota rates on any of the five theories, wouldn't you?

A. Well, I don't know as I am competent to say, but I doubt very much if you would.

Q. You do know that the Iowa rates are very much lower, as a whole, than the rates prescribed by the Minnesota schedule?

A. They are for some distances; I am not sure about the progression.

Q. And you do know that the Illinois rates are altogether different from the rates in Minnesota?

A. Yes, sir.

Q. And the South Dakota rates and North Dakota rates?

A. The South Dakota rates are higher.

Q. And they have been ever since you have known anything of railroading, have they not?

A. Higher, or different?

Q. Different.

A. They were all the same originally.

Q. They were all the same originally?

A. Yes, sir.

Q. All the rates throughout this territory were the same originally?

A. The basis—the distance tariff bases were the same.

Q. But you are speaking of this distance tariff shown on page 125?

A. Yes, sir; that was the basis.

Q. I am speaking of the rates established in these different states for those states.

A. Well, the Minnesota Commission established one and

South Dakota established another.

Q. And the local rates in all of the states which I have mentioned have been different as long as you have known anything about railroading?

A. Not altogether; no, sir.

Q. Can you name any two states in the Union where rates have been established for traffic exclusively within those states, in which the rates are not identical?

A. I don't know; I don't believe that they are the same. I know that the Minnesota and the South Dakota and the Iowa rates are not the same, and I don't recall enough about the others to remember. They probably are all different.

Q. Can you name any two sections of the United States covering territory to the extent of a thousand miles in which the interstate rates are the same?

A. As the state rates?

Q. No, with each other.

A. I don't understand what that means.

Q. Supposing you were to divide the United States into four parts, drawing a line east and west and north and south, and having the intersection of those lines as near the center of the United States as possible, would the interstate rates in any two of these quarters agree?

A. I should think they should agree where the conditions were similar.

Q. Well, do you know whether they would or not?

A. I don't believe I have any means of knowing.

Q. For instance, you know what a difference there is between the rates from New York to St. Paul and from St. Paul to the Pacific Ocean, don't you?

A. There is a difference.

Q. You know they don't agree?

A. There are a good many million rates, and very few of them agree, there are a great many commodities, and all sorts of conditions.

Q. Very few of the rates agree on a given commodity. That being true, isn't it pure idleness to attempt to test the rates established for the state of Minnesota by extending them, or placing them in any other territory?

A. I should say not; it was not pure idleness, no, sir. I don't believe there is any excuse for a higher progression as far west as Montana.

Q. You know that if you extended those rates into Iowa, you would get higher rates than is allowed by the law of Iowa?

A. I don't think there is any similarity in the extension of a rate—

Q. Do you know whether, if you extended them from here to Chicago, you would get higher rates than are maintained between here and Chicago?

A. I never have figured it out.

Q. Or if you extended them from here to New York, you would get higher rates than are maintained between here and New York?

A. I don't know.

Q. You know that the rates allowed for the haul from here to Duluth are higher than the rates maintained by your road from here to Duluth?

A. They are a trifle higher, I think.

Q. And you know, of course, that the conditions of the haul upon the western line of your road—over mountains, where the country is much more sparsely settled than it is in Minnesota—are such as to make the carriage of freight relatively much more expensive?

A. Yes, sir; I should think it would be.

Q. Well, now, if you were going to extend these Minnesota rates upon any theory, why didn't you extend them both east and west, and let us see how they compare with rates generally?

A. I extended them over our own lines, under our own conditions. I know very little about the conditions in other locali-

ties and on other lines. There is no end to that sort of thing.

Q. That is true, there is no end to it.

A. There is no end to comparing rates; no, sir.

Q. Absolutely no end to comparing rates.

A. With the thousands of commodities and thousands of rates, and thousands of individual instances, there is no end to it; no, sir.

Q. And there is very little advantage in comparing rates, is there?

A. A very great advantage sometimes, and a necessity.

Q. As soon as you leave the state of Minnesota to make these comparisons, you have to compare them with rates upon other roads, don't you?

A. Under normal conditions I don't see what a state line has got to do with the comparing of rates. If the transportation conditions are the same, I don't see what the state line has got to do with it—under normal conditions; it is simply an imaginary line. Under normal conditions, I say.

Q. Well, under the abnormal conditions which prevail in this country, by which the state has a right to regulate rates, state lines have a good deal to do with it.

A. They seem to have; yes, sir; not only by the states, but by the Interstate Commerce Commission.

Mr. How: Don't drop me out of the lawsuit, please. I want to protest that I am still in the lawsuit!

Q. Now, Mr. Maguire, I show you the Iowa distance tariff and hand you the publication marked "State of Iowa Schedule of Reasonable Maximum Rates of Charges for the Transportation of Freight and Cars Taking effect March 1, 1905." Will you please look at that and ascertain how much is allowed for each five miles for the first fifty miles of the haul.

A. Eigth-tenths of a cent up to 20 miles; six-tenths of a cent from 25 up to 50 miles.

Q. Now, go right on, please.

A. Four-tenths of a cent from 55 miles to 100 miles, and eight-tenths of a cent from 100 miles up to 200 miles.

Q. Well, go on. It goes farther than that.

A. 210 miles up to 300 miles, it is 1.6 cents for each 10 miles. That is the same progression as the other.

Q. It is eight-tenths of a cent for five miles?

A. Then, from 300 miles up to 500 miles five-tenths of a cent for each ten miles.

Q. Now, assuming that that is the correct tariff as contained in the publication just handed to me by Mr. Staples, you know, do you not, that it has been maintained in the state of Iowa for several years?

A. Yes, sir.

Q. And utterly disregarded outside of Iowa?

A. Well, we have disregarded it.

Q. And so far as you know, every road has disregarded it? I think it already appears in evidence in this case, for instance, that the rates from Des Moines to St. Paul are not established with regard to that tariff.

A. Yes, I think as a general rule, it is disregarded. I want to correct that and state that the lines use the Iowa distance tariff as proportional interstate tariffs west from the river.

Q. You mean that on shipment extending into Iowa they use the Iowa distance tariff as a proportional tariff on the interstate haul?

A. Yes, sir.

Q. You don't mean that they use the Iowa distance tariff as a basis for extending the rates outside of the state of Iowa?

A. I don't think they use the Iowa distance tariff as a basis for extending the rates outside of Iowa, no, sir.

Q. You don't know whether or not the rates allowed by the Iowa distance tariff are greater or less per mile than the interstate rates to which you refer, do you?

A. Why, if they are used as proportional rates they are

the same as the interstate rates; they cannot be used until they are filed at Washington on any kind of traffic.

Q. I don't mean now, but I mean the rates that they took the place of; you don't know whether they lower or could lower or raise the interstate rates?

A. I am not sure. I know of cases where the Iowa distance tariff has directly caused reduction in the interstate rates. A case came up the other day.

Q. You are speaking of something that has taken place in the last few months; did you say those rates have been used as the proportional interestate rates?

A. This last fall I think it started.

Q. You don't know whether the effect of that was to increase or lower the rates to which they were applied?

A. I don't think there is any doubt but what it decreased them.

Q. You don't know anything about it at all, do you?

A. No, sir; I said that I didn't in the first place.

Q. It has simply been suggested to you and that you understand that they have adopted or have used them?

A. I have been told that they have adopted them in the last six months.

Q. But as to what the effect was, or what the reason was, or how it came about, you don't know anything about it?

A. I don't know very much about them, because we don't run very much in Iowa; that is beyond my jurisdiction.

Q. And even then they are disregarded outside of the state, they are only used, according to your suggestion, for the purpose of basing the proportional rate in Iowa?

A. I have just said that I knew very little or nothing about it, and if you want me to answer again to something I have just said I know very little of—

Q. Well, I had no objection to your making the suggestion that you did, Mr. Maguire, although it was a matter not within

your own knowledge, because I would like to get these facts established as we go along as much as possible; I had pointed out to you the Iowa distance tariff and you had stated that although that tariff had been in existence in Iowa for many years, and that the roads had operated under it in Iowa, it was disregarded outside of the state—you corrected that by saying that you understood that lately the proportional interestate rates, so far as Iowa were concerned, had been lately based upon the Iowa distance tariff; now you say you don't intend to claim that the Iowa distance tariff affected any portion of a rate outside of Iowa.

A. No, sir, I don't pretend to say that it did.

Q. I call your attention to the Illinois rate as contained in a publication entitled "State of Illinois Railroad and Warehouse Commission, Springfield, Classification No. 10, Effective July 1, 1906." Can you tell what the rate of progression is in that schedule?

A. This is so irregular that I can't give you any very good idea of what it is. I find all kinds of figures here. It is irregular, though, largely I think because they have used fractions and dropped the fraction. Because, for instance, here they start at 7½ cents, then they add a cent and a half for two miles, and then a cent and a half for two miles, then a cent and a half for four miles, then a cent and a half for five miles, a cent and a half for twenty miles, a cent and a half for twenty-five miles, a cent and six-tenths for thirty miles, a cent and a half for thirty-five miles.

Attorney General YOUNG: Those should be five-mile progressions, a cent and a half for five miles. They start two, four, six and ten and then thereafter they are five-mile progressions.

WITNESS: Well, I read them right off as they are here. I am reading the difference here, Mr. Young, and the actual figures here.

Q. Read that again.

A. First it starts at 7½ cents for two miles; then the progression is a cent and a half for the next two miles; then a cent

and a half for the next two miles; then a cent and a half for the next four miles; then a cent and a half for the next five miles; then a cent and a half for the next five miles; then a cent and a half for the next five miles; then a cent and a sixth for the next five miles; then a cent and a half for the next five miles; then a cent and a half for the next five miles; a cent and a half for the next five miles; seven-tenths of a cent for the next five miles; eight-tenths of a cent for the next five miles; seven-tenths of a cent for the next five miles; eight-tenths of a cent for the next five miles; seven-tenths of a cent for the next five miles; eight-tenths of a cent for the next five miles; seven-tenths of a cent for the next five miles; eight-tenths of a cent for the next five miles; seven-tenths of a cent for the next five miles; seven-tenths of a cent for the next five miles; eight-tenths of a cent for the next five miles; eight-tenths of a cent for the next five miles; seven-tenths of a cent for the next five miles; eight-tenths of a cent for the next five miles; seven-tenths of a cent for the next five miles; four-tenths of a cent for the next five miles; four-tenths of a cent for the next five miles; four-tenths of a cent for the next five miles; three-tenths of a cent for the next five miles; four-tenths of a cent for the next five miles; four-tenths of a cent for the next five miles; four-tenths of a cent for the next five miles; four-tenths of a cent for the next five miles.

Q. Take it from 150 miles to 200 miles, what is the addition?

A. Straight?

Q. Yes.

A. Three cents.

Q. And for the next fifty miles?

A. 2.6 cents.

Q. And the next fifty miles?

A. 2.7 cents.

Q. That brings us to 300 miles. Now, from 300 to 400 miles, what is the addition?

A. 3.7 cents.

Q. And from 400 miles to 500 miles?

A. 1.9 cents.

Q. For the last 100-mile haul?

A. Yes, sir.

The MASTER: Was that gotten up by the Commission or by the Legislature?

Attorney General YOUNG: The Commission.

Q. Notwithstanding the existence of that rate in the state of Illinois, you know that it has never been extended or applied to interstate traffic outside of Illinois, don't you?

A. I don't believe I am competent to say, Mr. O'Brien.

Adjourned until Tuesday morning, April 20, 1909.

Federal Building, St. Paul, Minn., Tuesday, April 20, 1909, the hearing was continued at 10 o'clock A. M.

Mr. O'BRIEN: In connection with the cross-examination of Mr. Maguire, I desire to offer the general freight order No. 20,000 of the Great Northern Railway, entitled "Local and Proportional Tariff on Classes and Commodities, between stations in Minnesota, Wisconsin, Iowa, South Dakota and North Dakota, including Mondak, Montana."

Marked Defts. Ex. A-Maguire.

GEORGE H. EMERSON,

sworn on behalf of Complainants, testified:

By Mr. How:

Q. Mr. Emerson, you reside in St. Paul?

A. Yes, sir.

Q. And how long have you resided here?

A. Six years and a half.

Q. What is your present occupation?

A. Superintendent of motive power and machinery.

Q. Of the Great Northern Railway Company?

A. Yes, sir.

Q. How long have you been in the service of the Great Northern Railway Company in any capacity?

A. Twenty-seven years.

Q. Starting as what?

A. An apprentice in the shops at St. Paul.

Q. And then will you say what your various occupations and positions have been with that company since?

A. I worked as an apprentice and journeyman mechanic and locomotive fireman and engineer, locomotive foreman, general foreman, division master mechanic, general master mechanic, and for the past six years and a half as superintendent of motive power.

Q. What are the duties of the superintendent of motive power of the Great Northern?

A. I have charge of the rolling stock and machinery, and maintenance of equipment in connection with the same.

Q. Does that include shop tools as well as machines?

A. It does.

Q. When you say you have charge of the rolling stock and the machinery and tools, just what does that mean, what are your duties in connection with it; that is, are they merely accounting or—

A. No, sir, they are not accounting; it is the mechanical department organization, designing and preparing specifications for all new equipment and having charge of the maintenance of rolling stock and machinery and the organization in connection with the same.

Q. And that includes all repairs to rolling stock, and to machinery, etc.?

A. It does.

Q. And keeping them up to standard?

A. Yes, sir.

Q. What connection, if any, do you have with the purchase of new rolling stock or new machinery, from time to time?

A. I haven't anything to do in connection with the actual purchase, but all matters in connection with new equipment and machinery are referred to me; in fact, we prepare specifications and specify what class of machinery and equipment is required.

Q. And are you kept advised with regard to the prices which the Company pays?

A. I am.

Q. And do you keep familiar with the prices of all machinery and tools and equipment which the Company purchases from time to time?

A. Yes, sir.

Q. I call your attention to items numbered 19, 21, 31 (which I think consists of two pages) 32, 33 and 34 of Complainant's Ex. 2-Hogeland. Let us take item No. 19 first. That is headed "Great Northern Railway Lines in Minnesota, June 30, 1908—Steam and Electric Power Plants, Gas Plants." The first column headed "Section" refers to the different sections of the Company's property into which it was divided, for the purpose of convenience in making valuations, I understand; second, "Location," shows the location of steam and electric power plants, gas plants; the third column, headed "Building" shows, I take it, the value upon the basis of the present cost to construct, and, as I understand it, you are not responsible for the figures in that column?

A. No, sir.

Q. You did not make that estimate?

A. I did not.

Q. The next column, headed "Machinery" contains certain figures; will you state whether those figures were prepared by you?

A. They were prepared at my office, under my supervision, yes, sir.

Q. Under your instructions?

A. Yes, sir.

Q. And will you state what the figures in that column represent?

A. They represent what it would cost to reproduce the steam, electric and power plants, gas plants etc., at the various localities.

Q. And upon what basis did you prepare those figures with regard to prices, how did you establish those prices?

A. The actual cost of the machinery, plus the cost of installing.

Q. And as of what date did you establish the actual cost—the price?

A. Why, fully seventy-five per cent of the machinery in Minnesota has been purchased within the past six years, and we simply checked up the invoices and took the cost of labor and material for installing; they represent the actual cost to the Great Northern Company.

Q. You keep track of prices of such things, you say. How do prices at the present day, during the year 1908, compare with the prices which you put in there for the actual cost; would they be higher or lower today?

A. They are just about the same.

Q. No material variation, you think?

A. Very little.

Q. Now, I will ask you generally, whether the figures in the column under the heading "Machinery" represent your best judgment as to the fair, reasonable, present cost of acquiring and setting up the machinery indicated as situated in those various localities.

A. To the best of my knowledge, yes, sir.

Q. I refer you now to item 21. That is headed "Shop Machinery and Tools." The first column is the number of the sections of the various locations; the next two columns contain

the description of the locations, and the next column contains figures which are aggregated in the last column. I will ask you what those figures represent.

A. They represent, in my judgment, the cost to reproduce the shop tools and machinery.

Q. In Minnesota?

A. In Minnesota, yes, sir.

Q. How are those figures obtained?

A. From an actual inventory, plus the labor and material of installing.

Q. And upon what basis of prices?

A. Of machinery purchased in the past six years.

Q. How much of that machinery, generally, has been purchased in the past six years?

A. I should say seventy-five per cent. That was due to the fact that on account of the introduction of high-speed steel within the past six years, some of the obsolete machinery it was necessary to "scrap."

Q. Does that page include anything which has been scrapped or is now fit to scrap?

A. No, sir, it does not.

Q. Does it include anything excepting what is necessary for the use of the Company?

A. No, sir, it does not.

Q. What do those figures represent with regard to your judgment as to the actual, fair value—

Mr. O'BRIEN: As a matter of fact, Mr. How, there is no dispute on these items.

Mr. HOW: Isn't there?

Mr. O'BRIEN: I don't think so.

Mr. DWIGHT C. MORGAN: No dispute, I think, Mr. How, except with respect to the apportionment of the locomotives to the state of Minnesota.

Mr. HOW: Well, then, I will put it in a formal way.

Q. Those figures represent your best judgment, do they, as to the actual, fair, present cost of acquiring and installing the shop machinery and tools described at those various locations?

A. Yes, sir, they do.

Q. Now, I will refer you to item 31, which consists of two pages and is headed "Locomotives," and that covers locomotives used on the entire Great Northern system?

A. It does, yes sir.

Q. The first column indicates the class of locomotives; the next column the number of engines in each class; the third column the weight of each engine in the class, and the fourth column, headed "Value" is the value upon the basis of the present cost of acquisition?

A. Yes, sir.

Q. And those figures, I understand, in the same way represent your best judgment and are based upon current going prices, the last prices that you have paid?

A. Yes, sir.

Q. There is a foot-note to page 2, showing the mileage of the system and the mileage of the state and the percentage of the mileage of the state to the percentage of the mileage of the system; those have been figured, but you do not testify as to what basis of apportionment to the state of Minnesota is proper at all, I take it?

A. No, sir.

Q. You have no judgment with regard to that?

A. No, sir.

Q. How are these locomotives used with regard to the system at large; are certain locomotives assigned to any particular division and finally to stay there, or are they assigned to one division and changed to another and assigned to one temporarily and then to another, and so on?

A. Well, as a rule, they are assigned according to the requirements of service.

Q. Who makes that assignment?

A. I do, as a rule.

Q. You have charge of seeing that each division has power enough to handle its business?

A. Yes, sir.

Q. And the assignment changes from time to time with the needs of one division as against another?

A. Yes, sir.

Q. Are those divisions divided according to state lines, or are state lines disregarded in making operating divisions?

A. State lines are disregarded.

Q. And the result is, therefore, that a locomotive may be on a local run in Minnesota this week, and engaged in interstate business next week?

A. Yes, sir.

Q. Do those figures represent your best judgment as to the present cost of purchase of the locomotives described in that item 31, based on present prices?

A. Yes, sir, they do.

The MASTER: Of course, this is on a basis of new machinery?

WITNESS: Yes, sir.

Q. I call your attention to item 32, headed, "Passenger Equipment." That has one column showing the number of various kinds of passenger equipment; the next column shows the figures which, I take it, represent your best judgment of the present cost of acquisition of the equipment described, at current going prices?

A. Yes, sir.

Q. That, also, has at the foot a statement of the passenger-car mileage of the system and of the state of Minnesota, with the percentage; and with regard to that you do not testify as to any judgment as to the proper method of apportionment to the tsate?

A. No, sir, I do not.

Q. Item 33 is headed "Freight-car Equipment," the first column stating the number of different kinds of freight-car equipment; the second-column figures I take it represent, in the same way, your judgment as to the present cost of acquisition of the equipment described, at current going prices?

A. Yes, sir.

Q. And that also contains the same facts for the purpose of an apportionment of that equipment to the state of Minnesota, and as to that you do not testify?

A. No, sir.

Q. Item 34 is headed, "Miscellaneous Equipment." The first column shows the number of different kinds of cars, etc., included within the class of miscellaneous equipment, and the second-column figures, I take it, in the same manner show your best judgment with regard to the present cost of acqusition of the equipment described and included within the class of miscellaneous equipment upon present going prices?

A. Yes, sir.

Q. And the foot-notes are of the same kind as described with regard to the locomotive equipment and freight-car and passenger-car equipment, and you take the same position with that, that you have no judgment as to the proper method of apportionment?

A. I have not, no, sir.

Q. You have testified that under the heading "Value" you have put in the value upon the basis of the present cost of acquisition and installation of the various things that require installation. I will ask you if you have any judgment as to the actual value of this property; that is to say, whether you have made any estimate of the amount of depreciation which this equipment, or any of it, covered by these various items has undergone from its new state.

A. I have not taken depreciation into consideration at all. I was asked to furnish a statement as to what it would cost

to reproduce the equipment. Take, for example, a locomotive,—an engine forty years old can handle as much tonnage as a new engine of the same class, provided it has been properly maintained.

Q. What is the present condition of the equipment with regard to efficiency?

A. We consider it first-class.

Q. What is your custom and practice with regard to keeping your machinery and equipment up to standard?

A. We have certain tonnage that a locomotive is supposed to handle, and if, through any cause due to a mechanical defect, the engine is not capable of doing so, it is turned over to the mechanical department by the operating department to be put in shape to handle its work.

Q. And how great a degree of inefficiency is there, in the practice of the Great Northern road, before it is turned over to the mechanical department?

A. We are not allowed any.

Q. It must be wholly efficient?

A. It must be wholly efficient.

Q. Or it is turned over to you?

A. Or it is turned over to the mechanical department for repairs.

Q. It is the design of the mechanical department, then, to keep all the engines, machinery and all the equipment, up to the full efficiency of a new machine?

A. Yes, sir.

Q. And I understand you to say that the equipment is in good condition now?

A. It is, yes, sir.

Q. What is your judgment, based upon your experience, with regard to the question as to whether the Great Northern has more equipment than it ought to have for the business of the road in the past and present and what it may expect in the future?

A. Some two years ago we were very short of equipment, locomotives and cars. Two years ago, as I remember it, we placed an order for 250 locomotives and between eight and ten thousand cars. Before the locomotives, for example, were delivered, the financial depression found us and we have at the present time fifty new locomotives that have never been set up, besides sixteen per cent of the power that is out of service waiting for business, tied up, white-leaded.

Q. Being taken care of in expectation that business will come for it?

A. Yes, sir.

Q. What would be the state of your equipment—would you be over-equipped in case business should be as good as it was two years ago?

A. No, sir, we would not.

Q. In your judgment is it wise and proper for the Great Northern road to have all the equipment and all the machinery and all the tools that it has now in expectation of business?

A. I think so, to a certain extent.

Q. You think that it may expect to have business that will require everything it has?

A. We hope so.

Q. How long does it take to get locomotives after you order them, in good times?

A. Well, at the present time you can get delivery of locomotives in six weeks; two years ago in from eight months to a year.

Q. The time that it required for the delivery of a locomotive?

A. Yes, sir.

Mr. How: I think that is all. I understand there is to be no controversy over the figures but only with regard to the apportionment of the locomotives, and perhaps rolling stock, of the various miles to the state of Minnesota, and my examination of the witness has been somewhat informal on that account.

CROSS-EXAMINATION.

Mr. O'BRIEN: You understand, Mr. How, when I said that there was no dispute about the matter, I meant there was no dispute as to the market prices?

Mr. How: Yes.

Mr. O'BRIEN: The quantities and the apportionment and present value and all of those matters were not included in that, but as I am advised by Mr. Morgan, there will be no dispute about the unit prices that Mr. Emerson has used.

By Mr. O'BRIEN:

Q. Now, Mr. Emerson, the equipment of railroad companies, locomotives, rolling stock, tools and machinery, are all subject to the general natural laws and do wear out?

A. To a certain extent, yes, sir.

Q. And the older a piece of equipment is the more repairs that are required to keep up its efficiency?

A. Not necessarily due to the system that is followed by railroads in connection with their repairs to locomotives and cars. As an example, we have locomotives that the original engine we may say was purchased thirty-seven years ago, and that engine is in service today, but possibly there is not ten per cent of the original locomotive still intact. We have a limit for all working parts of a locomotive—all reciprocating, revolving and frictional parts, say piston-rods, driving axles, etc.—that when they are worn to a certain limit must be renewed. The same thing in connection with a boiler. So that the power that was originally purchased forty years ago, if our requirements of service are such we could keep it in service forty years more, following the same system of repairs. The same thing is true in connection with cars.

Q. Still, it is true that the material of which the equipment is composed is the same material as that of which other machinery is composed?

A. Yes, sir.

Q. And subject to the same law of nature, and the older the equipment is the greater the repairs that are necessary for the purpose of maintaining its efficiency?

A. To a certain extent, yes, sir.

Q. Well, as a general rule?

A. Not as a general rule if following our system of repairs.

Q. In other words, there is no difference in this than there is in any other wood and iron and steel and other substances that are used to make up that equipment?

A. Not at all.

Q. It doesn't make any difference whether a boiler happens to be owned by a railroad company or owned by a farmer who is using it for running a threshing machine?

A. Yes, there is a difference there.

Q. The ownership makes a difference, does it?

A. No, not the ownership, but the system of maintenance does.

Q. Yes, the care that is taken of it?

A. The care that is taken of it.

Mr. How: I suppose it will be stipulated that the respective Complainants in the consolidated actions are both, and were, owners of stock in the Great Northern, as alleged?

Attorney General YOUNG: I guess there is no controversy about that.

Adjourned until Friday morning, April 23, 1909.

Federal Building, St. Paul. Minn., Friday, April 23, 1909. The hearing was resumed at 10 o'clock A. M.

GEORGE R. MARTIN,

sworn on behalf of Complainants, testified:

By Mr. BUTLER:

Q. What is your occupation, Mr. Martin?

A. Assistant comptroller, Great Northern Railway, St. Paul.

Q. How long have you been employed by that Railway Company?

A. Since July, 1890.

Q. And how long have you occupied your present position?

A. Since January 1, 1906.

Statement produced by witness marked for identification Complainant's Ex. 47-Martin.

Q. A statement marked Ex. 47-Martin, under caption following, "Great Northern Railway Company and Minneapolis Western Railway and Duluth Terminal Railway Companies, statement showing operating expenses in State of Minnesota, twelve months ended June 30, 1908," was this statement prepared by you or under your direction from the books and papers in the office of the Company in this city?

A. Yes, sir, it was prepared under my direction.

Q. I observe that the statement contains five principal subdivisions, under captions Transportation Expenses, Maintenance of Equipment, Maintenance of Way and Structures, Traffic Expenses, and General Expenses.

A. Yes, sir.

Q. And that it relates to the state of Minnesota.

A. Yes, sir.

Q. The railroad is operated in several states, and I want, in the first instance, to have you state to the Master how the accounts are kept with respect to localities in Minnesota.

A. The operating divisions of the line are divided into ac-

counting divisions which represent a train-run or two train-runs, on the basis of train-runs, or, in case of branch lines, an accounting division for the branch. Quite a good many of the accounting divisions are entirely in the state, so that any charges that might be made against such accounting divisions would be generally actual charges in the state. For those accounting divisions that cross state lines, as much of the expense is allocated to the state as is possible from the nature of the expense, and the common items, that cannot be located, are subdivided on some basis that would seem to be the fair one, such as freight car miles, passenger car miles, in case, for instance, as of repairs of cars that you could not locate to the state or to the accounting division.

The MASTER: The same rule obtaining in every case?

WITNESS: Yes, sir.

The MASTER: I assume it is some definite rule you have in regard to making up the expenses for the account of each division?

WITNESS: A definite rule, but not always the same rule with reference to each particular account.

Mr. BUTLER: We will go into that with some particularity.

Q. How many accounting divisions, or about how many, if you haven't the exact number in mind, are there which are situated wholly in the state of Minnesota?

A. I should think that somewhere in the neighborhood of fifteen accounting divisions are entirely within the state.

Q. And how many accounting divisions are there, a part only of which is in Minnesota?

A. About eight, I should think; seven or eight. I might say, also, that some of those are almost entirely in the state.

Q. Can you by reference to the map indicate to the Master and upon the record what accounting divisions are partly within and partly without the state?

A. The Superior division starts at Coon Creek Junction, and

runs to Superior, crossing the state line at Foxboro, so that the line is in Minnesota from Coon Creek Junction to Foxboro, the greater part of the way, and this small distance to Superior is in Wisconsin.

Q. From Foxboro to Superior?

A. From Foxboro to Superior. Practically the same thing applies for the Messaba division, which starts at Superior and goes through to Cass Lake, including the line branches; that is all in Minnesota excepting a little portion of it down here where it is necessary to detour to get into Superior.

Q. The Messaba range branches and that part from Superior to Cass Lake all in the same accounting division?

A. Yes, sir.

The MASTER: That includes all those branches above?

WITNESS: Yes.

Mr. BUTLER: Yes, all the Messaba range branches.

WITNESS: The Dakota main line starts at Crookston and runs through to Devils Lake, so that the portion of it from Crookston to East Grand Forks (possibly twenty or twenty-five miles) is in Minnesota, and all the balance of it is in North Dakota. The Benson and Watertown line starts at Benson, runs through to Watertown, crossing the state line at a point which, as I recall it, is substantially half of the distance. That accounting division is about one-half in Minnesota and one-half in South Dakota. The Halstead branch starts at Croookston, follows down the east side of the river to Breckenridge, and crosses the river at a point a few miles north of Wahpeton (not over seven or eight miles, I think) in North Dakota. All the balance of that accounting division is in Minnesota, from the Red river crossing to Crookston. The Sioux City division runs from Willmar, Minnesota, to Sioux City, Iowa, and crosses the line near Garrettson, South Dakota.

Q. That is nearly all in Minnesota? No—

A. Well, about two-thirds of that is in Minnesota, I should

think; there is quite a little stretch of it to reach Sioux City that is outside of the state. There is a line that runs to Aberdeen and Ellendale, which leaves the main line at Yarmouth, and is in the state of Minnesota a very few miles, probably not to exceed ten miles; the balance of it is outside of the state. I believe that is all that goes outside of the state.

Q. You have specifically mentioned all of the accounting divisions which are partly within and partly without the state?

A. I think that is complete, as I look at it, yes, sir.

Q. Now, as respects the items under the head of Transportation Expenses, we will speak first of the method of territorial division between Minnesota and the rest of the territory in which the line is located. The first general item under the head of Transportation Expenses is Station Services, which is divided into Station Employes, Station Supplies and Expenses, Weighing and Car Service Associations, Operating Joint Yards and Terminals, Debit, Operating Joint Yards and Terminals Credit. Will you take each one of these items and indicate how the division is made between Minnesota and the rest of the territory served by the line?

A. The account "Station Employes," is one which can be allocated, I think, in every instance. It is charged according to the location of the station at which the employes are engaged, and of course all Minnesota stations will go into the Minnesota territorial division.

Q. So that item of station employes includes the employes working in stations in Minnesota?

A. Yes, sir, station employes in Minnesota.

Q. And nothing else?

A. Nothing else.

Q. Now, as to "Station Supplies and Expenses," is that the same as Station Employes?

A. It is substantially the same. Those supplies are used at the same stations that the employes are working, who are

charged under "Station Employes." There are a few items—I think of only two—Car Seals and Baggage Checks—that are purchased as a general supply, and those are charged out for the whole line. The Minnesota proportion of such expenses is arrived at on the basis of the revenue train miles of the state of Minnesota as compared with the revenue train miles of the whole line.

Q. And that item, I suppose of Car Seals and Baggage Checks, is comparatively a small item?

A. Very small as compared with the total, yes, sir.

Q. With respect to Weighing and Car Service Associations?

A. The charges for this account may be pretty well located actually according to the place at which the employes of the weighing association or the car service association are located. There are some general expenses, such as the expense of the commissioner, which are charged to the line and subdivided on an arbitrary basis.

Q. What is the basis?

A. The basis that is used for the unlocalized expenses in that case is the localized expenses. After we have located all we can of the actual service of weigh-masters and inspectors we figure that the service performed by the commissioner and the expenses of his office that cannot be located would be fairly divided on the same basis as the located items. They are merely supervising the work which we have located, supervising the men whose pay has been located.

Q. For example: If the located items for Weighing and Car Service Association in Minnesota was one-fourth of such items on the whole line, then the division of the cost of supervision would be made on the basis of one-fourth to Minnesota and three-fourths to the rest of the line?

A. Yes, sir.

Q. Now, as to these items so arbitrarily divided, you mentioned among them supervising; is the work of supervising done

by men whose duties take them outside of Minnesota and over the whole line?

A. Yes, sir.

The MASTER: So that in reaching that expense, you have in mind the whole system in Minnesota?

WITNESS: The whole system first, and then the system in Minnesota next.

The MASTER: Oh, yes.

Q. This statement Ex. 47, does not make any separation in the totals as between accounting divisions?

A. The statement is for the whole state of Minnesota in one total for each account.

Q. And the divisions that we are speaking of are the divisions chargeable to the whole state of Minnesota out of the expenses of the whole line?

A. Yes, sir.

By Mr. O'BRIEN:

Q. Now, Mr. Martin, you have your accounting divisions separate from the entire expense of the system?

A. We have accounting divisions all over the system, just the same as we have in Minnesota.

Q. Now, take the question of superintendence, supervising, that you speak of, included in the third item, "Weighing and Car Service Association," you have charged a certain amount of that supervision to each division, each accounting division?

A. To each accounting division actually, or are you referring now to the men who do the work, such as weigh-masters and inspectors, and so on, who are located at—

Q. No, I am speaking of the supervisor.

A. The supervisor covers the whole line.

Q. The supervisor covers the whole line, but you first charge to each accounting division a certain proportion of his entire expense?

A. No, we charge the whole thing of his expense first to the

whole line, then we subdivide on the basis of the localized expenses under his supervision.

Q. Well, isn't the first division according to your accounting divisions?

A. No, sir, the first division is common to the Great Northern Railway, for any expense like supervisor who covers the whole line.

The MASTER: That is, when you speak of the whole line, you mean the whole system from here to the Pacific coast?

WITNESS: Yes, sir.

Q. Now, then let us say the second, or what I would call the first subdivision of that gross expense, isn't that made by the accounting divisions?

A. The second one is made by accounting divisions, yes, sir.

Q. Ex. 47, then, would be a third division to the state of Minnesota?

A. Yes, to the extent that it is the sum of the accounting division items in the state of Minnesota.

Q. Now, supposing in case of a supervisor that we are speaking of, there was charged to that accounting division partly in and partly outside of the state of Minnesota the sum of $1,000, for example; how would you then subdivide that sum of $1,000 so as to charge the state of Minnesota with its proper proportion of it?

A. A revenue train mileage basis would have to be taken for such a division on that accounting division, a revenue train mileage on that accounting division.

Q. Then, when you said, in answer to Mr. Butler, that the division of that particular class of expenses (supervising expenses) was made between the state of Minnesota and the entire line, you meant that it was first made upon the basis of the proportion which the particular division bore to the entire line, and that it would have to be again subdivided as to the proportion which that particular division was contained in Minnesota as

contained in the entire division?

A. On an accounting division across the line we would have to have a further subdivision to get the Minnesota proportion, yes, sir.

By Mr. BUTLER:

Q. Now, the next item, Debit and Credit, both are shown on this statement. Operating Joint Yards and Terminals: Does that item refer to joint yards and terminals which lie wholly within the state of Minnesota?

A. Yes, sir, those are wholly within the state.

Q. Now, what are the debit items that go to make up the $168,940.44 under Freight and $52,033.69 under Passenger?

A. The account includes the Great Northern proportion of the station service expense of terminal companies: The St. Paul Union Depot, the Minnesota Transfer Railway, and the Duluth Union Depot. I think these three cover practically the whole amount.

Q. Those being the only jointly operated properties in the state that the Great Northern is interested in?

A. They are the large items. There may be some small items; I think there is a small charge which comes from an arrangement at Cloquet; possibly one or two other small stations.

Q. Now, do the first figures, the debit figures, include the total operating expenses, and the credit items the amount that is not ultimately borne by the Great Northern, is that the way?

A. No, the credit account is the other side of the account. It is what the Great Northern gets from other roads for the joints facilities that it furnishes, such, for instance, as Minneapolis Union station charged to the tenant companies for their proportion of the station expense, and the short line between St. Paul and Minneapolis used by several tenant companies, such as the Omaha, Burlington and Wisconsin Central.

Q. So the debit items refer to one class of yards and the

credit items to another class of yards?

A. The debit items refer to the Great Northern payments to other companies, and the credit items refer to Great Northern collections from other companies and apply back as a credit against the account Station Employes and Station Supplies and Expenses, as being the proportion of the total expense incurred by the Great Northern at those points which is collected back by the Great Northern from tenants.

Q. The next general item is Yard Service. How is the expense for yardmasters and their clerks for Minnesota gotten at?

A. We can take that whole set of accounts under yard service and say that it is allocated. The yards are in Minnesota for which the expenses are included in this statement.

Q. The services and materials referred to in the various items under yard service are all rendered or used in the state of Minnesota?

A. Yes, sir; that is an actual division.

Q. That is an actual division and includes nothing except such service and things as are rendered and used in Minnesota?

A. Nothing else.

Q. The next general item is Engine Service, consisting of Road Enginemen, Enginehouse Expenses, Road, Fuel for Road Locomotives, Water for Road Locomotives, Lubricants for Road Locomotives, Other Supplies for Road Locomotives?

A. We will have to take those separately.

Q. You may do so.

A. Road Enginemen are allocated to the accounting division over which the engine runs, and in case the engine runs on an accounting division crossing the state line, the expense will be divided on the actual mileage made by the enginemen.

Q. In the state and out of the state?

A. In the state and out of the state.

Q. And how do you get at that? Is an account kept with each trip?

A. Each engineer sends in a time-slip to his division office, showing the starting point and the ending point of the run and the mileage that he claims he should be paid for. They are on a mileage basis.

Q. And as to Road Enginemen Expenses for Services rendered wholly within the state, that is all included, and the rule which you have stated applies only to those trips a part of which is within and a part of which is without the state?

A. Yes, sir.

Q. And is made up from the items involved in each particular trip?

A. Yes, sir.

Q. The Engine-house Expense—Road. how is that divided between the state and the rest of the system?

A. The engine-house expenses are divided by individual engines on the basis of the number of times that each engine is handled in the roundhouse. That is usually one time, at the end of each trip. For all of the trips on accounting divisions in the state made by those engines the charge for the number of times handled would, of course, be actual, according to the location of that accounting division. If the engine's trip is on an accounting division crossing the state line, the expense is divided on the engine mileage, on the same basis as for road enginemen.

Q. Which you have just described?

A. Yes, sir.

Q. Fuel for Road Locomotives?

A. For each engine coal tickets are sent in—

Q. Showing what?

A. Showing the quantity of coal taken by the engine from the different coal-sheds, and these are recapped so that at the end of the month we have the total quantity of coal used by each engine, and to that is applied the price of the coal to get the amount of money in this account. For each engine a regular

division sheet is prepared showing the mileage made by that engine on each accounting division; and I probably should have explained before that when an accounting division crosses the state line, we make as many sub-accounting divisions as there are states, so that by using the mileage made by the engine, applying it to the amount of money for coal used, we get the charge against each accounting division and sub-accounting division in case the state line is crossed.

Q. And Lubricants for Road Locomotives?

A. The lubricants are divided exactly the same as the fuel, on the same basis as the fuel, and Other Supplies likewise. And Water is actual, according to the location of the water-tank.

Q. That is, you charge to the state the expenses of the water stations located in the state?

A. Yes, sir.

Q. Train Service, Road Trainmen, and Train Supplies and Expenses (being the two items under that head).

A. The "Road Trainmen" is handled on the same plan as the "Road Enginemen."

Q. What mileage do you take for the subdivision in that case? In the case of the engines you take the engine mileage, and in the case of trains do you take the train mileage?

A. Well, it isn't the engine mileage any more than the engine mileage equals the engineer's mileage. It is the mileage shown by the man who makes the trip, in both cases. If it is road enginemen, it is the engineer's mileage; if it is trainmen, it is the conductor's mileage.

Q. That is, the engineers are paid on the basis of mileage run, either actually or constructively, according to the schedule of wages?

A. Yes, sir.

Q. And the conductor of the trains is paid in like manner, as I understand it?

A. Yes, sir.

Q. And in dividing the train service items of expense between the state and the rest of the system, in those instances where a part of the run is within and a part of it without the state, the conductor's mileage is taken as the basis?

A. Yes, sir; that is substantially the road mileage.

Q. Is that also true with respect to the division of Train Supplies and Expenses?

A. No, train supplies and expenses very frequently cannot be as closely located; all items are located that can be, always, but where they cannot be actually located, the division is made on the basis of the kind of train mileage in which the supplies are used; if the supplies are used for a passenger train, the passenger train mileage would be used; if for freight service, the freight train mileage would be used.

The MASTER: What would be the nature of those supplies and expenses?

WITNESS: One large item is supply of ice used for refrigerator cars, for instance; temporary grain-doors for freight cars is another large item. The supplies that locate themselves are such as the lanterns, and oil and wicks for the lanterns, flags, torpedoes and other things of that kind that would be issued to an individual conductor to be carried in his caboose and used as might be necessary on his run.

Q. The next general head is "Casualties, Clearing Wrecks"; how is that item divided territorially?

A. Those charges, for clearing wrecks, can be almost always localized, according to the place where the wreck occurs. There are some few supplies that might be furnished a division wrecking-car which would be for general use, and they would have to be divided on the basis of train mileage for the division where used.

Q. The Loss and Damage items of freight and baggage?

A. Those items very largely locate themselves, according to the place where the damage occurs, but sometimes there are con-

cealed losses and the exact location of the damage cannot be told; in that case the division is made territorially on road mileage, that is, the miles of main track covered.

Q. And Damage to Property?

A. The charges to Damage to Property can almost always be actually located.

Q. That means property other than property being trans ported?

A. Yes, sir.

Q. It means property of the public?

A. An engine might set fire to a man's grain stack, and a payment for that damage would be made and charged to this account.

Q. Where the property damaged is located?

A. Yes, sir. There are some few items of supervision in this account, as in others, that would have to be divided arbitrarily, and the basis of revenue train miles would be used for this account.

Q. Damage to Stock on the Right-of-way?

A. The same thing applies to that as to Damage to Property.

Q. That most all locates itself?

A. Almost all locates itself, except a few supervisory items or miscellaneous items divided on revenue train mileage.

Q. And Injuries to Persons?

A. The same applies to that as to Damage to Property and Damage to Stock; almost all of the items are actually located.

Q. Under the general head of "Miscellaneous," the item "Superintendence"?

A. The charges are located, first, actually, as closely as possible; if it is a division superintendence, to the division.

Q. And if the division is wholly within the state?

A. It would be next subdivided to the accounting divisions, as usual, and on the basis, in that case, of revenue train mileage.

Q. Well, if wholly within the state, it would be charged to the state, but if a part of the division is within and a part of it without, how is it divided?

A. On revenue train mileage.

Q. That is, for division superintendence. Now, this includes other items, general superintendence, etc.?

A. The same plan would be used excepting that you would have to use a different mileage according to the territory that was covered to get the charges back to your accounting division; then the same rule would apply.

Q. For instance, if the jurisdiction of a general superintendent took in Minnesota and Dakota but did not take in anything west of Dakota, then the division would be made on the basis of the territory covered?

A. Yes, sir.

Q. The train mileage in the territory covered?

A. Yes, sir.

Q. "Dispatching Trains"?

A. The same as Superintendence.

Q. Telegraph and Telephone Operations?

A. Those charges can all be located excepting the supervisory items, and they would be divided on the revenue train mileage basis.

Q. Interlockers, Block and Other Signals—Operation?

A. Those charges would be almost entirely located, according to the location of the interlocking plant; there might also be some small supervisory items there.

Q. And that would be divided?

A. That would be divided on the revenue train mileage.

Q. Crossing Flagmen and Gatemen?

A. I think of nothing in that account but what would be actually located according to the place where the men were working.

Q. Drawbridge Operation?

A. That would also be located. We have almost no charges for that in this territory.

Q. $4?

A. I believe that the charge that appears there is on account of the Red River bridge at Grand Forks, and the expense was there divided one-half to each state.

Q. Operating Joint Tracks, Debit and Credit?

A. Those charges are actually located according to the location of the terminal from which it comes. It is exactly the same plan as for operating joint yards and terminals.

Q. The item under Station Service?

A. The item under station service, yes, sir, and it comes from the same terminal companies' bills, such as the Northern Pacific joint service at Duluth and the Northern Pacific double-track arrangement between Coon Creek and East St. Cloud.

Q. Stationery and Printing?

A. That is considered as a charge common to the line, unless there are some very large orders for books to be used in the particular place. Usually it is common to the line, and is divided to the accounting divisions on the revenue train-mileage basis.

Q. Insurance?

A. As far as possible, items are located, but where they cannot be located actually, the division is on the revenue train mileage basis.

Q. And Other Expenses?

A. Actual, if possible; otherwise, on the revenue train mileage basis.

Q. We now come to the maintenance items. First, Maintenance of Equipment. Under that head we find Repairs of Steam Locomotives; how is that divided territorially?

A. The repairs of locomotives is divided in the same way as I explained for Fuel for Road Locomotives. The cost of repairs for each individual engine each month is kept and divided between the accounting divisions over which the engine runs dur-

ing the month on the basis of the engine mileage.

Q. Repairs of Cars?

A. Repairs of cars is kept separate for freight cars and passenger cars, and these charges are almost entirely common to the line. There might be a cost of repairs that could be located to a particular accident, which would be charged actually, but the great bulk of the repairs is common, and for the freight cars is divided between the accounting divisions on the basis of the freight car mileage and for the passenger cars on the basis of the passenger car mileage.

Q. Maintaining Joint Equipment at the Terminals, Debit and Credit Items.

A. That is the proportion charged the Great Northern by terminal companies such as the Minnesota Transfer, the St. Paul Union Depot, at which the companies have their own switching locomotives, and is, of course, actual according to the location of the terminal.

Q. Any other items that you think of by way of illustration of joint equipment, maintenance expenses, other than the repair of locomotives?

A. I think that that is all there is, and that it is confined to the Minnesota Transfer, St. Paul Union Depot, and Duluth Union Depot locomotives.

Q. Shop Machinery and Tools, Maintenance of Equipment item.

A. The charges to this account are divided between accounting divisions on the basis of the revenue train mileage.

Q. And Superintendence?

Mr. O'BRIEN: Mr. Butler, will you let us ask a question there?

Mr. BUTLER: Certainly.

By Mr. O'BRIEN:

Q. You said that this last item was divided between accounting divisions on the basis of the revenue train mileage; do you

mean that the entire expenses for the maintenance of shop, machinery and tools over the entire system is kept in gross?

A. Yes, sir.

Q. And then divided between each of the divisions on the entire system on the revenue train mileage basis?

A. Yes, sir.

Q. Then how is it divided on a division partly in Minnesota and partly outside of Minnesota?

A. On the revenue train mileage basis.

Q. On that particular division?

A. Yes, sir.

By Mr. BUTLER:

Q. That is, there is a subdivision?

A. A subdivision of each accounting division that crosses the state line.

Q. There are certain of the accounting divisions, as you pointed out earlier in your testimony, that cross the state line of Minnesota?

A. Yes, sir.

Q. And that division is subdivided as an accounting division at the state line?

A. Yes, sir.

Q. Superintendence under "Maintenance Equipment," how is that divided territorially to the state?

A. That is divided on the basis of the revenue engine mileage.

Q. And Injuries to Persons, Maintenance of Equipment—that would be, I suppose, injuries about the shops in connection with the repair of equipment of various kinds?

A. Yes, sir.

Q. How is that divided territorially?

A. These injuries are divided the same as the injuries under Transportation; that is, almost everything can be localized to the place where the injury occurs, excepting that there are some supervisory items, like a claim agent or division claim agent

(his expenses), which would have to be divided arbitrarily, and in that case the revenue train mileage basis would be used.

Q. Stationery and Printing?

A. The same as Stationery and Printing under Transportation. That is, except in a possible case of a large order for a particular purpose at a particular point, the charge is common to the line and divided territorially on the revenue train mileage basis.

Q. Insurance?

A. As far as possible the division is actual, but this is largely insurance on the different classes of equipment that will be used anywhere on the line, and where the charges cannot be actually located the mileage for the class of equipment insured is used as the basis of division; locomotive mileage for the locomotive insurance, freight car mileage for the freight car insurance, passenger car mileage for the passenger car insurance.

Q. And the Other Expenses?

A. Located, if possible; otherwise divided on a revenue train mileage basis.

Q. Renewal and Depreciation of Equipment? That includes the cost of repairing cars and engines, does it?

A. No, the repairs are taken care of in the repair accounts.

Q. This includes—

A. This includes the unexpired life, on a depreciation basis, of equipment that is destroyed in service; for instance, a car costs $600, the salvage would probably be worth $100; the life of the car might be estimated to be twenty years; if ten years of it had already been lived, $250 would have been depreciated in the depreciation account, and $250 would be left to be depreciated provided the car continued in service, but on account of being destroyed, that $250 that is left as the unexpired life or unexpired depreciation has to be disposed of, and it is disposed of in this account, Renewal of Equipment.

Q. And how divided territorially?

A. Divided actually according to the location of the accident, in case of an accident, or divided on the car mileage in case the taking of the car out of service is due to decay, which the mechanical department considers it isn't worth while to repair. That is for the Renewal Account. Now, there is also a depreciation account included in there, and that is the monthly proportion of a rate of per cent of depreciation, which has to be charged to operating expenses under the instructions of the Interstate Commerce Commission.

Q. What rate do you use, or rates, if different ones?

A. We have been using five per cent. The monthly charge would be one-twelfth of five per cent on the cost of the equipment, less the estimated value of the salvage.

Q. The same percentage used for all classes of equipment?

A. Yes, sir, we have been using the same.

Q. The Interstate Commerce Commission prescribes the keeping of these items, but does not prescribe the rate of per cent, as I understand it?

A. That is correct.

Q. The next and last item under Maintenance of Equipment is a credit item called Equipment, Borrowed and Loaned, $4,465.42.

A. That account was only kept for this first year, under the Interstate Commerce Commission's instructions, and has been abandoned. It was an arbitrary proportion of the per diem rate for rental of cars; the per diem rate when this was established being fifty cents per day, and the rate of twelve cents being arbitrarily given by the Interstate Commerce Commission as representing the repair proportion of that total rental collected, and this was used only for freight cars and was divided territorially on the freight car mileage.

Q. And while kept resulted in the credit indicated?

A. Yes, sir.

Q. The next general head is Maintenance of Way and Structures, including a large number of items. Perhaps you would better speak of each separately, beginning with ballast, as to the territorial division.

A. Ballast, ties, rails, and other track material, roadway and track, tunnels, bridges, trestles and culverts, over and under-grade crossings, grade crossings, fences, cattle-guards and signs, removal of snow, sand and ice, snow and sand fences, and snow-sheds, I think have nothing in them excepting items that are actually located to the state. The superintendence would be charged actually as far as possible, but in case of a division crossing the state line, the track mileage of that division would be used. Signals and interlocking plants, telegraph and telephone lines, buildings, fixtures and grounds, docks and wharves, are all located to the state. Roadway, tools and supplies would be very largely located to the state, according to the place where the gangs getting the supplies were working, but in case of an extra gang crossing the state line during a given month, the common supplies would be divided between the states on the basis of the localized labor.

Q. That is, if they earned as much during that month in one state as they did in the other, you would charge half of the supplies to each?

A. Yes, sir. Work equipment repairs is quite largely allocated. Work equipment is quite generally assigned to a certain operating division, and in case there are charges on the accounting divisions that cross the state line the track mileage basis of division is used between the states. Injuries to persons would be handled under this sub-head the same as under Transportation and Equipment; that is, almost all of the items can be located. The supervisory items which cannot be located would be divided on a track mileage basis.

Q. Stationery and Printing?

A. This account is like the other stationery and printing

accounts. Very little can be located, and the division is made on a track mileage basis.

Q. Insurance?

A. Almost all of the insurance items in this subdivision may be actually located, being insurance on buildings and structures. The only item that I think of that would not be actually located would be the insurance on work equipment, and that would be divided on a track mileage basis.

Q. Other Expenses?

A. Actual, if possible; otherwise, on a track mileage basis.

Q. Maintenance of Joint Tracks, Yards and Other Facilities, Debit and Credit?

A. Well, this is the maintenance proportion of those same terminal companies that I spoke of before, and for the credit the charge is against tenant companies that use Great Northern terminals.

Q. The Renewal and Depreciation of Work Equipment?

A. This is the same kind of an account of Renewal and Depreciation under Maintenance of Equipment. In fact, this year (since July 1, 1908), the Interstate Commerce Commission have changed over this account of Work Equipment so that it is under the general head Maintenance Equipment, instead of under Maintenance of Way and Structures. The renewals and depreciation are just the same for those in principle as for all other equipment.

Q. And during the current year that item disappeared under Maintenance of Way and Structures, and is included under the similar item, under Maintenance of Equipment?

A. Yes, sir.

Q. The next general head is Traffic Expenses; how is each item under that head divided territorially?

A. I think there are substantially no items in this account that can be actually located to a division. The first division that would be made for traffic expenses would be to determine,

if possible, whether freight or passenger, for the reason that there is a very accurate division. A freight traffic manager handles only freight; a general passenger agent handles only passengers. Advertising is almost always passenger,—in any event, can be located; so that the items are obtained, as freight or passenger, if possible, and then are divided territorially on the freight train mileage or the passenger train mileage; but in case of common items, on the total revenue train mileage for the whole traffic expense account.

Q. Does that apply to each of the items under Traffic Expenses?

A. Yes, sir.

Q. The next general head is General Expenses. How are the various items of general expenses divided territorially in this statement?

A. Salaries and Expenses of General Officers, Salaries and Expenses of Clerks and Attendants, General Office Supplies and Expenses, include items which cannot be actually located, and are divided among all accounting divisions on the System on the basis of revenue train mileage; and if an accounting division crossed the state line, revenue train mileage would be the basis of determining the amount in Minnesota. Law Expenses is allocated somewhat more closely, on account of certain members of the legal department having charge of a territory. In that case, only the territorial train mileage is used. Where they have charge of the whole line, the revenue train mileage for the line is used.

Q. That is, if a member of the law department's territory included Wisconsin and a part of Minnesota, that would be divided territorially on the basis of the mileage in the territory?

A. In the territory.

Q. Where this particular lawyer had jurisdiction?

A. Yes, sir; the attorney at Great Falls, for instance, having charge of the Montana division, Butte division and Kalispell

division, would not appear in the Minnesota figures at all.

Q. That would be divided out there on a similar basis to the Wisconsin and Minnesota man here?

A. Yes, sir. Insurance includes, I think, no actual items and is divided on the revenue train mileage basis.

Q. Pensions?

A. We have very little in the pension line. We had one man who was on the pension list, that lived, I think, one month into this year, and of course, that was actual; that was located in Minnesota.

Q. Stationery and Printing?

A. Common to the line, as in other cases, and divided on the revenue train mileage basis.

Q. Other Expenses?

A. Divided on the revenue train mileage basis.

Q. General Administration of Joint Tracks, Yards and Terminals. There is a credit and debit item there?

A. There is the general expense proportion of those same joint facilities items that I mentioned before, at Minnesota Transfer, St. Paul Union Depot, Duluth Union Depot, and in case of a credit for the collections made from the other lines using the short line between St. Paul and Minneapolis.

Q. Now, on the fourth page of this Ex. 47 is the recapitulation as per reports to the Railway Commission. It first shows the Great Northern; next, the Minneapolis & Western Railway; and next, the Duluth Terminal Railway. What is the Minneapolis Western Railway?

A. The Minneapolis Western Railway is a separate company which operates the tracks serving the flour mills on the west side of the Mississippi River at Minneapolis.

Q. Engaged wholly in the freight business?

A. Engaged wholly in the freight business; it is a switching road.

Q. And the $37,495.06 here is the total operating expenses?

A. Yes, sir.

Q. The Duluth Terminal Railway—what is that?

A. The Duluth Terminal Railway is a company owning the line from near the St. Louis river bridge on the Minnesota side and extending to the Union Depot in Duluth to give entrance to Duluth from the St. Louis river bridge.

Q. And that is wholly located in Minnesota?

A. That is wholly located in Minnesota, yes, sir.

Q. And this item is the total operating expenses of that?

A. Yes, sir.

Q. As reported.

A. The total expense, you will notice, is made up of the item reported directly as operating expenses to the Commission, and a charge for fund for renewal of bridging, which is a maintenance item and kept because the Duluth Terminal is largely built on a trestle, and this is for the purpose of running a depreciation account to charge each month a proportion of the depreciation on that trestle.

Q. Can you give us approximately, Mr. Martin, the percentage of the total operating expenses shown on this statement that can be located to the state of Minnesota directly without a division on any of the various bases that you have referred to in your testimony?

A. I should say that probably 75 per cent of the expenses are on substantially an actual division.

Q. Now, the next matter of division upon Ex. 47-Martin is division of various items, almost all that we have heretofore mentioned, between the freight and passenger business in Minnesota; I would like to have you speak of the manner of division as between freight and passenger of the items under the head Transportation Expenses, Station Service; the first item is Station Employes.

A. Well, I would say, as a general statement, that for this division between freight and passenger we have in every case, where possible, made an actual division, the same as for the territorial division.

Q. That is, certain items of expense are clearly chargeable to either freight or passenger?

A. Take Station Employes, a station which is exclusively handling freight would have the wages of the employes charged directly to freight in the first instance; a passenger station having a ticket clerk and a baggage man, would have the wages charged directly to passenger. Outside of the larger stations, the station employes are engaged in both kinds of service, and the division between freight and passenger has been made in that case on the basis of revenue train mileage.

Q. That is, the percentage of the revenue freight train mileage to the whole and the percentage of the revenue passenger train mileage to the whole?

A. Yes, sir; the same thing would apply to Station Supplies and Expenses; the same to Weighing and Car Service Associations.

Q. There is no division of that item here, is there? There is nothing under the passenger head there, that is all charged to freight?

A. Yes; Weighing and Car Service Associations are engaged exclusively in freight business.

Q. And the Operating of Joint Yards and Terminals, the debit and credit, how is that divided between the freight and passenger business?

A. I believe that that divides itself actually in every case. I don't recall any joint service; the St. Paul Union Depot is passenger; the Duluth Union Depot is passenger, and the Minnesota Transfer is freight. However, if there should be any division necessary in a case of that kind, if there should be any item, the revenue train mileage basis would have to be used.

Q. The Yard Service, the first item under that head is Yardmasters and Clerks.

A. I can speak of all of those accounts as a whole.

Q. Under the head of Yard Service?

A. Under the head of Yard Service. To get this division between passenger and freight, all freight yards, of course, are charged as freight, and all passenger yards exclusively as passenger, but for the common terminals handling both freight and passenger trains, we took a list of the business done, that is, had a test made of the time in service for each class of trains, passenger and freight; got the superintendent from his knowledge of the local situation at each point to confirm the result, so that a percentage was made for each individual point according to the service rendered,—I believe a period of ten days was used to get the basis—so that, for instance, at a place like Barnesville, which handles both freight and passenger trains in the terminal yard, it might be that that test showed that the passenger service ought to be ten or fifteen per cent (I don't remember the percentages at each point) but arrived at in that way.

Q. Now, under the next head, Engine Service, how are the items under that head divided between passenger and freight?

A. Road Enginemen is, of course, actual; the time-slips that I mentioned before always showing whether the enginemen were working on an engine hauling a passenger train or a freight train.

Q. If it were a mixed train hauling both?

A. A mixed train is divided on the basis prescribed by the Interstate Commerce Commission in its mileage circular for mixed trains, one-fourth passenger and three-fourths freight.

Q. The item of Engine-house Expenses—Road?

A. The amount chargeable to each engine is arrived at, as explained before, on the basis of the number of times engine is handled; and wherever the accounting division to which such charge is located then crosses the state line, the division is made on the basis of the revenue engine mileage.

Q. Fuel for Road Locomotives?

A. We can take Fuel for Road Locomotives, Lubricants for

Road Locomotives and Other Supplies for Road Locomotives, and, as I explained for the territorial division, the same division sheet would make the division between freight and passenger according to the mileage that the engine had made in the particular month for which the charges were made to these accounts.

Q. Did that include the water—

A. No, sir.

Q. —for road locomotives?

A. No, sir.

Q. How is that divided, as between freight and passenger?

A. The water is divided on the revenue engine mileage basis for the accounting division.

Q. Train Service, Road Trainmen and Train Supplies and Expenses; do those items divide themselves?

A. Road Trainmen divide the same as Road Enginemen; that is, for all freight trains, wages of conductors and brakemen is charged to freight; for all passenger trains, as passenger; and mixed trains divide one-fourth and three-fourths. Train Supplies and Expenses is very largely located according to service; supplies drawn by a freight conductor would be charged as freight; by a passenger conductor as passenger; ice for refrigerator cars would be freight; temporary grain-doors would be freight, etc. But common items would be divided on the basis of the revenue train mileage.

Q. The items under the head of Casualties?

A. Clearing wrecks principally locates itself according to the class of the train which has been wrecked and for which these expenses are, on account of picking up the wreck. In case of passenger and freight trains in a collision, the responsibility was located, if possible, or, if it was a common item, the division would be upon the revenue train mileage basis. Loss and Damage, Freight and Baggage, is actual.

Q. Damage to Property; that includes fire scattered by locomotives?

A. Actual, if possible, according to the class of train causing the damage; common items divide on a revenue train mileage basis. The same applies to Damage to Stock on Right-of-way and Injuries to Persons.

Q. The items under the heading Miscellaneous how divided between freight and passenger?

A. Superintendence, dispatching trains, telegraph and telephone operation, interlockers, block and other signals operation, crossing flagmen and gatemen, drawbridge operation, stationery and printing, insurance and other expenses, would all be divided on the revenue train mileage basis. The operating of joint tracks, debit and credit, is, I think, actually located in every case to the class of service; but if there was a joint service, the revenue train mileage basis would be used.

Q. So none of the items except the items of operating joint tracks divide actually under the heading of Miscellaneous?

A. There might be some few items that would be actual passenger or freight, and if so, they would be so charged; for instance, I think that we have one or two crossing watchmen who are working where there are only freight trains running, and in that case the actual division would be made. Always we make an actual division if we can.

Q. Under the head Maintenance of Equipment, how are the items divided between freigh d passenger?

A. Repairs of steam locomotives is worked on a sheet the same as Fuel for Locomotives. The expenses for each individual engine are kept, and to those expenses for each month we apply the mileage of the engine during that month, whether in passenger or freight service. Of course, locomotives are pretty well assigned to one class of service or the other, so that when you get a locomotive mileage as a basis, you are quite likely to get it 100 per cent passenger or 100 per cent freight, so that the division is pretty well an actual division, although not entirely so. Repairs of Cars divides itself, freight cars

charged as freight, passenger cars charged as passenger. Maintaining Joint Equipment at Terminals, Debit and Credit, will, I think, in every case be an actual division. Minnesota Transfer does nothing but freight business, St. Paul Union Depot nothing but passenger business, and so on.

Q. Shop Machinery and Tools under this head?

A. Shop Machinery and Tools would be divided on a revenue train mileage basis.

Q. Superintendence?

A. Superintendence is divided on a revenue engine mileage basis.

Q. Injuries to Persons?

A. Injuries to Persons would be located quite extensively, but common items would be divided on a revenue train mileage basis.

Q. If a person was injured about the repair of a passenger car, that item would be charged to the passenger business?

A. Yes, sir.

Q. And if it could not be said that he was engaged exclusively in either passenger or freight car business, it would be divided as you have stated?

A. Yes, sir.

Q. Stationery and Printing, does that locate itself?

A. Hardly in that, and it would be divided on a revenue train mileage basis.

Q. Insurance?

A. Insurance would be pretty largely actual, on account of covering freight cars and passenger cars; but the items that would not locate themselves actually would be principally insurance on locomotives, and the revenue engine mileage is used for the division in that case. Other Expenses—actual if possible, and common items divided on a revenue train mileage basis.

Q. Renewal and depreciation of equipment, does that divide itself mostly?

A. Yes, it principally divides itself on account of passenger cars and freight cars; the steam locomotives, renewal and depreciation, was divided on the basis of the revenue engine miles for the preceding year.

Q. Equipment, Borrowed and Loaned?

A. That is all freight.

Recess until 2 P. M.

AFTERNOON SESSION.

Q. Referring further to Ex. 47-Martin and to the subject of Maintenance of Way and Structures, I would like to have you state how the items under that head are divided between freight and passenger.

A. I think we can take the whole line of accounts in Maintenance of Way and Structures and say that with the exception of a very few items they do not locate themselves actually to passenger or freight. There are a few buildings, like stockyards, track-scales and freight and passenger stations, where they are separate, that an actual division can be made and is made in these figures, and there are a few tracks that are so situated that they can be considered as used exclusively for freight business; and where it is possible to separate actually it is done. But that applies in only a very few cases. And the accounts Maintaining Joint Tracks, etc., Debit and Credit, are from Minnesota Transfer (which is freight), St. Paul Union Depot or Duluth Union Depot, which are passenger, and possibly there may be one or two very small common items, and all of the common items are divided in this statement on the revenue engine mileage.

Q. With respect to Traffic Expenses, the items under that head?

A. I explained in the territorial division that for those items we made the actual division between freight and passenger as far as possible, which covers a pretty large amount of

the total, and the common charges are divided between freight and passenger on the revenue train mileage basis.

Q. General Expenses, the items under that head?

A. Aside from the joint facilities account, general administration Joint Tracks, etc.. Debit and Credit, which come from Minnesota Transfer, St. Paul Union Depot and Duluth Union Depot, etc., and so located actually for service, there is almost nothing in the general expense accounts that will divide actually between passenger and freight, and the common items are divided on the revenue train mileage basis.

Q. Can you tell us approximately what percentage of the expenses shown on this exhibit divide themselves actually and naturally between freight and passenger and what percentage must be divided on some one of the bases that you have mentioned?

A. I would estimate that an actual division could be made for about sixty per cent of the total items.

Q. You have throughout your testimony used the expression "revenue engine mileage" and "revenue train mileage." What is meant by "revenue engine mileage" and "revenue train mileage"?

A. The Interstate Commerce Commission has made a classification of mileage, and this statement follows the Interstate Commerce Commission's classification; revenue train mileage would be the mileage, as defined by the Commission, of revenue trains between the different terminals that they would run, and the engine mileage would be the same thing for engines.

The MASTER: I understand revenue train mileage, because every train is supposed to produce a revenue, but an engine would seem to be an instrument or tool in the operation of the train.

Q. Well, illustrate the case of a train movement which is not a revenue train. For example, if they had some empty flat cars or work cars at one part of the line and ordered them to

another to do work, they make certain mileage between the points; would that be a revenue train?

A. No, that generally would be a work-train account as distinguished from a revenue train. A non-revenue train movement would be, for instance a train composed entirely of company material, like a train of coal for company use, a train of ties, or something of that kind. Now, engine mileage would be the same as train mileage as long as there was only one engine on a train and as long as the engine was pulling the train, but we sometimes have two engines on a train, and we sometimes have engines running light without any trains, and we have helping engines on trains, so that the revenue train mileage and the revenue engine mileage will not be the same.

Q. How about switching engines, how is that figured if they are handling loaded cars in the ordinary course at switching points? Are they considered revenue engines?

A. The switching is classified separately as switching.

Q. And would not be included in what you here characterize as revenue engine mileage?

A. No, sir.

Q. Then it very often happens that, needing an engine at one part of the road you have to return engines light from one part to another, and in such case the engine is not a revenue engine?

A. No.

The MASTER: That is, when you speak of revenue engine and revenue train, you refer to an engine that does produce a revenue in its use, and a train producing a revenue in its use?

WITNESS: Well, not necessarily, because you might have a train that was being run entirely composed of empty cars, for the purpose of getting those cars to some part on the line to be loaded and brought back.

Q. That would be a revenue train?

A. That would be a revenue train, yes, sir.

Mr. BUTLER: Ex. 47 is offered in evidence.

Q. Complainant's Ex. 48-Martin, a statement under caption "Great Northern Railway Company (including Minneapolis Western Railway and Duluth Terminal Railway Companies) statement of rentals paid in state of Minnesota, during year ending June 30, 1908 (as reported on pages 73 and 75 of reports to Railroad & Warehouse Commission)." Mr. Martin, is this a statement prepared by you or under your direction?

A. Yes, sir.

Q. Does it contain the same information and is it practically a copy of the pages of the report to the state railroad and warehouse commission for the year ending June 30, 1908?

A. It comes to the same totals, and is the same set of items excepting that it is detailed more than is shown in the report to the commission.

Q. And relates to the three companies referred to in Ex. 47-Martin?

A. Yes, sir.

Q. The one we last referred to. Those two companies, the Minneapolis Western Railway and Duluth Terminal Railway, are companies the stock of which is owned, or at any rate in effect controlled, by the Great Northern Railway Company?

A. They are operated in connection with the Great Northern Railway Company. I wouldn't want to make any statement as to ownership.

Q. That isn't within your jurisdiction?

A. Not within my jurisdiction.

Mr. BUTLER: Complainant's Ex. 48 is offered in evidence.

Q. Ex. 49-Martin, a statement under caption "Statement of Revenue earned in state of Minnesota during the year ended June 30, 1908." Is this a statement prepared by you from the data in your office or prepared under your direction?

A. Prepared under my direction, yes, sir.

Q. Does it contain the same information as was included in the reports of the Great Northern Company, the Minneapolis

Western Company, and the Duluth Terminal Company, for the fiscal year ending June 30, 1908, and at the pages referred to in the exhibit?

A. The pages of the report to the state commission are the ones that are referred to at the top, yes, sir.

Q. Practically it is a bringing together of the three reports?

A. Yes, sir.

Q. And the method of apportioning the earnings to the state, is that prescribed by the forms furnished by the railroad and warehouse commission?

A. Yes, sir.

Q. Giving to the state credit for everything that was earned on traffic moving wholly within the state, and dividing the interstate business on the basis of mileage prorate?

A. Yes, sir.

Q. This does not purport to show the intra-state separately, does it?

A. Yes, this is local to the state here (indicating on exhibit) and this is interstate.

Q. Now, with respect to the local to the state, do you know whether that is the correct figure or whether it included interstate business that was local to the state of Minnesota?

A. I couldn't say as to the divisions further than to say that this is a copy of the three reports as made to the commission and brought together on this statement. Now, how those divisions are made I couldn't say.

Mr. BUTLER: We offer in evidence Ex. 49.

Q. There is one matter that you called my attention to that you desired to correct; you may state what it is.

A. The rate used for depreciation of equipment in this year I stated to be five per cent; I should have said six per cent.

Mr. BUTLER: Ex. 49 is a reproduction of certain pages of the annual reports of the three companies named and has reference to the revenues from Minnesota intra-state business, con-

tains the error that was referred to in the testimony of Mr. Parker, by including as local business certain interstate business, but which was local to the state on the line of the Great Northern Company; and for that reason the Ex. 33-Parker, which shows as I now recall, the truth in that regard, gotten at in the manner described by Mr. Parker, does not correspond with the figures on Ex. 49, which were the figures reported to the commission.

Mr. O'BRIEN: We don't think of anything at this time that we desire to ask Mr. Martin, and probably not at all. There will be no cross-examination, at least there is none now, and I don't think we will ever ask for any cross-examination of Mr. Martin.

Adjourned until Tuesday morning, April 27, 1909.

Federal Building, St. Paul, Minn., Wednesday, April 28, 1909. Hearing resumed at 10 o'clock A. M.

A. H. HOGELAND,

recalled on behalf of Complainants, testified:

By Mr. How:

Q. Mr. Hogeland, I call your attention to an exhibit which has been marked Complainant's Ex. 13-Hogeland, consisting of a circular, purporting to have been issued by the purchasing agent of the Great Northern Railway Company and calling for ties to be delivered on the right-of-way of the line. I will ask you whether a circular of that nature is customarily issued by the purchasing department of the Great Northern road every year.

A. Yes, sir; such a circular is issued each year.

Q. What is the purpose of that circular and what is it intended and expected to produce?

A. The intention is to secure, under that circular, whatever ties can be secured from settlers in clearing up their land, delivering the ties along the right-of-way.

Q. Is it expected that that circular will produce ties in any very large quantity, sufficient for the needs of the Company, for its ordinary purposes?

A. No, sir; it is not expected that it will accomplish that.

Q. Does it accomplish that?

A. No, sir; it has not.

Q. Have you made any investigation with regard to the results of this circular and the number of ties that were brought forth by it or through it?

A. Yes, sir; I have made inquiry of our purchasing department.

Q. And what do you find in that regard?

A. In reply they advised me that under this circular we secured, during the year 1908, 155,055 ties, that were deliverd on

the right-of-way in small lots, at a great many different points.

Q. And what was the character of the ties so delivered?

A. Out of the 155,055 ties so dleivered 51,946 complied with specifications for main-track ties which called for a tie 7 inches face and over, and 7 inches thick.

Q. How many ties were used by the Great Northern Company in Minnesota during the year 1908?

A. We used approximately 764,500.

Q. State whether in your judgment, based upon your experience, that is a desirable and economical method of procuring or purchasing ties.

A. It is not a desirable method of securing ties when you consider the way they are delivered and the expense of picking them up. They necessarily have to be picked up with work-trains, which interferes with the operation of the railroad with other trains, and it is not the labor expense or the train-service expense, but more particularly the delays to traffic occasioned by picking up ties delivered in that way.

Q. How do those prices contained in that circular compare with current contractors' prices during the year 1908?

A. They are considerably lower.

Q. Why should you receive and be able to purchase so many ties at prices that are considerably lower than contractors' prices during the same time, why should anybody sell them to the Company for lower prices?

A. Simply because they are secured by the farmers and settlers in clearing up their land and it seems desirable to put such timber into ties rather than to have it go into cordwood.

Q. Where is the market for ties, the ordinary market?

A. In Minnesota, in the northeastern part of the state generally; the country around Cloquet.

Q. Where do contractors furnish ties or buy them? Is there any central market for ties?

A. They generally make their deliveries at or near Cloquet,

the ties being secured from the entire northeastern part of the state wherever there is timber sufficient to make them.

Q. Have you information as to what contractors' prices were during the year 1908 for ties—what your Company paid?

A. Yes, sir.

Q. Won't you state what they were?

A. In 1908 the average price paid contractors for tamarack ties was 55 cents, for cedar ties 61 cents. In addition to that price paid contractors it is necessary to have the ties inspected, peeled and loaded, which added an average of about five cents per tie to the cost as paid contractors.

Q. Your Ex. No. 2, item No. 5, estimates cedar ties at 75 cents and tamarack ties at 65 cents. How do you justify the higher estimate in that exhibit than the prices shown to have been paid by your Company for this number of ties during the year 1908?

A. I considered it reasonable to assume in carrying on reconstruction of the Great Northern lines in Minnesota, extending over a period of eight years, that the increase in price which had taken place during the last four years would have to be met in such purchases of ties as would be required for that reproduction.

Q. Have you prepared a statement showing the increase of price for ties upon your System during the last seven years?

A. We have prepared a statement showing the cost of track ties for lines constructed since 1898, covering a ten-year period.

Q. You have produced it and it has been marked "Complainant's Ex. 50-Hogeland." It is entitled "Great Northern Railway, Cost of Track Ties." It contains, in the first column, the year in which construction was done, in the second a description of the line constructed, in the third and fourth the mileage of main and sidetracks, in the fifth column the number of ties used, in the sixth column the total charges for ties, and in the seventh column the cost per tie. At the bottom it shows that the average

cost of ties for the whole ten years was 66.6 cents and that the average cost for the years 1905, 1906 and 1907 was 76.3 cents and that the average cost for the year 1907, being the last year covered by the statement, is 82 cents. I ask you if that statement was made up from the records of your Company and if you believe it to be an accurate statement.

A. Yes, sir; it is made up from records of the Company and I believe it to be accurate.

Mr. HOW: I offer it.

The MASTER: It covers all kinds of wood?

Mr. HOW: All kinds of ties.

Q. Do you know, in general, what kind of wood those ties are, whether or not there are any considerable number of oak ties within them?

A. No, I think there are no oak ties, or so few as to be negligible. They are mostly cedar, tamarack and fir.

Q. Oak ties, I think you have said, are extremely difficult to obtain now and extremely expensive if obtained?

A. Yes, sir.

Q. In any large quantities?

A. Yes, sir.

The MASTER: So that, practically, you have no oak ties in the road at present? That is, you say the number here is practically negligible of oak ties.

WITNESS: I mean, your Honor, that in that statement the number of oak ties as put in those lines during the last ten years is practically negligible, but we have, as shown at the foot of item 5, Ex. 2, 1,084,470 oak ties existing in the lines in Minnesota.

The MASTER: They have not been purchased, however, within the period covered by this exhibit?

WITNESS: I think part of them have been purchased during the period, but they would be used for renewal ties and would not be shown in that exhibit of mine, which covers new lines altogether.

Q. Let me also call your attention to the fact that there are some switch-ties of oak, also, in Minnesota. Those are not included in the 1,084,470?

A. No, sir; switch-ties are not considered in any of these statements.

Q. And you have 1888 sets of switch-ties in Minnesota now?

A. Yes, sir.

Q. Since giving your testimony previously in this case, in direct and cross, have you made an extended investigation as to prices paid contractors for grading in original construction in Minnesota?

A. Yes, sir; we have.

Q. And covering what period?

A. Covering the entire period of the building of the Great Northern lines and its antecedent lines.

Q. Have you prepared a statement showing those prices?

A. We have.

Q. Will you produce it?

Witness produces statement.

Q. It is produced and marked "Complainant's Ex. 51-Hogeland." The first column indicates the number of the respective sections into which the system in Minnesota has been divided for the purpose of making the estimate of cost of present construction; the second column the location of the work within that section covered by this exhibit; the third column the part of the work, the year; the fourth the number of cubic yards of earth moved; the fifth the amount paid contractors; the sixth the price per yard paid contractors; the next three columns the same information with regard to hardpan; the next three columns the same information with regard to loose rock, and the next three columns the same information with regard to solid rock. That is correct, is it?

A. Yes, sir.

Q. The earliest construction which I observe in this state-

ment is in 1871, being construction from St. Cloud to Barnesville, and the latest is in 1907, being construction from Kelly Lake to Fermoy.

A. That is correct.

Q. I will ask you how this exhibit was prepared, from what figures and from what records.

A. We prepared it from vouchers in the accounting department—vouchers showing the payments made to contractors.

Q. Are those figures open for inspection to any proper representative of the defendants?

A. Yes, sir; I understand so.

Q. Does this statement cover all the work of original construction which has been done for the Great Northern Company or any of its predecessor companies and of which you have vouchers or other records showing the price paid to contractors?

A. It does. That should be qualified by the addition that it covers all of the grading work for which contractors were paid for which we can find the vouchers covering payment.

Q. Comparing this exhibit with item No. 2 of your Ex. No. 2, merely for the purpose of illustration, take the first item, St. Paul to University switch, construction in 1885, there are 25,739 yards of earth moved, whereas in your estimate item No. 2 of Ex. No. 2 you estimate 4,130,530 total cubic yards in that section. Why does not Ex. 51 show the original contractors' price for the whole 4,130,530 yards instead of only for 25,739 yards?

A. Because we cannot find records covering the balance of that, and the greater portion of it was done by train work, by the operating department.

Q. What was this 25,739 yards?

A. It is the Fair Ground spur.

Q. The spur running up from the four-track line to the State Fair Grounds?

A. Yes, sir.

Q. That work was done in 1885 and you have the vouchers

for the price paid to the contractors?

A. Yes, sir.

Q. And you have not, I understand for the balance of the yardage, included within that section?

A. That is true.

Q. Now, let us compare this exhibit with your Exhibit No. 3. There seems to be a difference in some respects in the quantities covered by your Ex. No. 3 and Ex. No. 51, respectively, your Ex. No. 3 being a statement showing the sources from which grading quantities for lines in Minnesota were compiled; and under the first heading "Quantities for which Contractors were paid on original construction" the total in Ex. No. 3 is 26,650,952 yards, whereas in your Ex. 51 the total cubic yards for which contractors were paid upon original construction is 26,942,476 cubic yards. Will you explain those differences, taking the different items, if you have the information before you, and explain how the differences arise.

A. I should preface that with the statement that in Ex. 3 the first column, showing quantities, headed "Quantities for which contractors were paid on original construction," was made up from the best information we had in our office at that time, which was generally the estimates as returned by the engineers. In making up Ex. 51, in order to get the prices it was necessary for us to get the vouchers from the accounting department, and in doing that we discovered a number of discrepancies between those vouchers and our estimates. I will go through those in detail. Take section 5,—

Q. The Hopkins branch.

A. Section 5, the Hopkins branch: Ex. 3 shows quantities paid contractors 37,200 cubic yards; section 5, Ex. 51, shows 37,210 cubic yards.

Q. Actually paid for?

A. Probably a clerical error on our part. Section 6, on Ex. 3, being the Hutchinson branch, shows 689,593 cubic yards paid

contractors, whereas Ex. 51 shows 690,128 cubic yards, being a difference of 535 cubic yards. That is another instance where the voucher does not exactly agree with the estimate filed in our office. Section 10, Brown's Valley branch, Ex. 3 shows 406,946 cubic yards paid contractors, whereas Ex. 51 shows 410,946 cubic yards, a difference of 4,000 yards. In that case the estimate which we secured in our office was not the final estimate, as we afterwards discovered.

Q. The estimate, you mean, from which you made Ex. No. 3 was not the final estimate?

A. Yes, sir. Section 15, Clearwater Junction to St. Cloud, Ex. 3 shows 904,711 yards paid contractors and Ex. 51 shows 911,714 cubic yards, a difference of 7,003 yards. The same explanation applies to this, that the estimates which we made use of in preparing Ex. 3 were not the final estimates, the later estimate having been found. Item 16, St. Cloud to Willmar, Ex. 3, shows 883,573 cubic yards paid contractors, and Ex. 51 shows 886,635 cubic yards, being a difference of 3,062 yards. In this case the estimate which we made use of in Ex. 3 was not the final estimate. Section 18, Sauk Centre to Park Rapids, Ex. 3 shows 1,302,979 cubic yards as paid contractors, Ex. 51 shows 1,311,318 cubic yards, being a difference of 8,339 cubic yards. This is another instance where the final estimate was not found and used; in preparing Ex. 3, a later estimate was found after we found the voucher. Section 25, Moorhead to Carman—

Q. In Ex. 3 it is named Moorhead to Carman, but the name has been changed from Carman to Redland, and it is the same work?

A. Yes. Ex. 3 shows 615,491 cubic yards paid contractors, and Ex. 51 shows 614,951 yards, being a difference of 540 yards, and that is a clerical error, a mistake in addition. Section 29, Thief River Falls to Greenbush, Ex. 3 shows 471,598 cubic yards as paid contractors, Ex. 51 shows 468,598, being a difference

of 3,000 yards. That is also a clerical error, a mistake in addition. Section 30, Carman to Fosston, Ex. 3 shows 703,999 cubic yards as paid contractors, Ex. 51 shows 831,371 yards. This comes about by a piece of this line having been abandoned and the yardage has been cut out in Ex. 3, also in Ex. 2, the amount cut out being 127,372 yards. Section 32, Sandstone to Quarries, Ex. 3 shows 59,020 cubic yards, and Ex. 51 shows 29,510 cubic yards. This voucher covers one-half of the line built, and for the balance of the line we are not able to find the voucher. Section 35, State Line to Cloquet, Ex. 3 shows 1,026,254 cubic yards as paid contractors, and Ex. 51 shows 1,199,679 cubic yards. This is because we find that 173,425 cubic yards included under Extra Work on record in Ex. 3 should have been in the column of quantities for which contractors were paid. Section 37, Brookston to Ellis, Ex. 3 shows 1,069,814 yards paid contractors, and Ex. 51 shows 1,069,824, a difference of ten yards, which is a clerical error. Section 42, Deer River to Fosston, Ex. 3 shows 2,601,808 yards paid contractors, Ex. 51 shows 2,603,139 cubic yards, being a difference of 1331 yards, the explanation of this being that the loose-rock item was omitted in Ex. 3. Section 44, Minneapolis Union Railway, Ex. 3 shows 183,760 cubic yards paid contractors, Ex. 51 shows 183,244, being a difference of 516 yards. This is a case where the voucher, as we have found it, disagrees with the estimate in our office by that amount. The net result of these differences is 291,524 cubic yards. That is, the quantities as shown in Ex. 51 exceed those shown in Ex. 3 by that amount. If we deduct the piece of abandoned line between Carman and Fosston, amounting to 127,372 cubic yards, the difference then becomes 164,152 yards.

Q. That is to say, Ex. No. 51 shows that the Company has actually paid for 164,152 cubic yards more than Ex. 3 shows that you claimed to have been paid for under original contracts?

A. Yes, sir.

Q. Now, will you not, in your own way, compare Ex. 51 and the results produced by it with your Ex. 4 and your Ex. 2, so far as the item concerning grading goes, and tell what you claim Ex. 51 shows by way of justification for your estimates?

A. At the foot of Ex. 51 the average prices paid contractors for earth, hard-pan, loose rock and solid rock, are respectively 21 cents, 40 cents, 45.6 cents and $1.17. Comparing these with the results obtained in Ex. 4, you will see that the average prices paid contractors in every instance exceeds prices obtained on said Ex. 4. If we apply to these prices paid contractors shown on Ex. 51 the so-called constant or addition which should be added to prices paid contractors to cover the entire cost of the work, the prices which we have used in item 2, Ex. 2, are more than justified.

Q. That is, they proved to be too small?

A. They show that we would have been justified in using higher prices in preparing item 2, Ex. 2.

Q. Now, since you offered Ex. 4 in your testimony in this case, have you made an extended investigation and checking up of the figures shown in it?

A. Yes, sir; we have, and found some mistakes.

Q. Would you like to correct that exhibit in any respect?

A. I would.

Q. Please do so, and state how the errors arose, if you know.

A. Referring to Ex. 4, in the next to the last column, headed Total Charges, coming down to the third item, being the line Brookston to Ellis, we show the amount $396,539. We find that there was included in this an item of $38,004 for clearing and grubbing, which should not be included in grading, according to what we are producing this exhibit for; which would reduce that amount to $358,535. Coming down three lines lower, being the line Kelly Lake to Nashwauk, we see total charges $99,983. We find there has been included in this an item of $16,267 for clearing and grubbing, which should be cut

out, reducing the proper charges to grading to $83,716. The sum total of these corrections is $54,271, which being deducted from the amount at the foot of this column produces $20,973,408, instead of $21,027,679.

Q. What effect does that have upon the last column, which purports to show the average cost per yard?

A. It changes the average cost per yard from 44.8 cents to 44.72 cents being less than one-tenth of a cent change. I desire to say that the reason for clearing and grubbing having been included in those two charges was because the clerk who took it off was following the present-day practices where clearing and grubbing are considered part of the grading, and we did not discover it until we were going over the books more carefully since my direct examination.

Q. Who discovered those errors?

A. Mr. Leech, my assistant.

Q. Do you know whether or not they were discovered and noted by anybody else excepting somebody in your department, or even at all discovered and noted?

A. Not to my knowledge.

A. Have you prepared an Ex. No. 4 containing the corrected figures?

A. We have.

Mr. How: I ask the privilege of withdrawing this Ex. 4 and putting in the correct figures.

WITNESS: Well, you should add that that necessarily makes a change n the average cost per yard, opposite those two items in the last column.

Mr. How: Yes. I simply wanted to show the good faith of the original figures and the good faith of the corrections, that is all.

The MASTER: Your idea was to withdraw this entirely, was it?

Mr. How: Withdraw Ex. 4 and put in a correct one, so that

the figures should not be misleading. I don't insist upon it at all.

Attorney General YOUNG: I don't see that it makes a particle of difference. I don't think these rates are going to be regulated on one-tenth of a cent.

Mr. HOW: I don't, but the witness has a pride about having his testimony and figures accurate, and I agree that he is justified in that.

It was agreed that the original Complainant's Ex. 4-Hogeland be withdrawn, and "Ex. 4-Hogeland, corrected," substituted therefor.

Q. I call your attention to pages 158 and 159 of the reporter's minutes of your testimony as given on the second day's hearing, and I ask you if in view of the correction of Ex. 4 you desire to make any correction of that testimony.

A. Yes, sir; wherever I used the figure of $36.7 cents as the average cost per yard, total charges for grading, it should read 36 cents; in other words, the corrections which we have made in the two items on Ex. 4 as previously described, affects the average cost per yard of grading for the Minnesota lines to the extent of seven-tenths of a cent.

Q. What difference in the conclusions which your testimony was intended to support does that correction make, in your judgment?

A. It does not make any difference in the conclusion; it still shows that the figures that I have used in Ex. 2, item 2, are conservative.

Q. I want to speak a little about this so-called constant (which I think is an unfortunate term to apply) to the added cost of grading over and above the price paid contractors; will you not state fully what this so-called constant, or what this added price (which is not a constant at all, of course, but varies with different circumstances) covers, and what it has covered in your experience?

A. It is intended to cover the increased cost of grading over and above what is paid contractors on a yardage basis, for the various classes of material, and it includes such items as overhaul, transportation of outfits, men and supplies, and extra bills, of whatever nature properly chargeable to grading, that are not carried out and paid for by the yard.

Q. When you say "properly chargeable to grading," you mean that are charged to grading and are not comprehended within any other account?

A. Yes, sir; they are a proper charge to grading.

Q. Has your road a custom and has it had a custom with regard to the terms of its contracts for grading covering transportation of men?

A. Yes, sir; in all of our contracts the Railway Company furnishes free transportation.

Q. What is your judgment as to whether or not you can obtain a better and more economical contract with that provision in it than if the contractor furnishes his own transportation?

A. It is my judgment that that is the most economical way to let the work, for the reason that the Railway Company then assumes the uncertainty, and if the contractor assumed that, he would always have to estimate on the very worst conditions that he could figure.

Q. Have you a statement before you showing the number of men employed by your Company in some recent work, and the number of men that it was necessary to transport in order to get that work done?

A. Yes, sir.

Q. I wish you would produce it. I am not sure whether I will offer it as an exhibit, or whether it may not be read into the record. You appear to have two statements, one headed "Statement showing number of men actually engaged on the construction of the Billings line as compared with number of men sent to the work"; the other headed "Statement showing

number of men actually engaged in the construction of the Kelly-Lake-Fermoy line, as compared with number of men sent to the work." The first statement covers work, as I understand it, in Montana, the Billings line?

A. Yes, sir.

Q. And the second covers the Kelly-Lake-Fermoy line in Minnesota?

A. Yes, sir.

Q. During what year? the statement does not show.

A. 1907.

The statements were marked for identification Complainant's Exhibits 52-A and 52-B-Hogeland respectively.

Q. Have you estimated how many men it would be necessary to employ in the present construction of the Great Northern system in Minnesota per year if it should be completed in eight years, as you designed in your Ex. No. 2?

A. Yes, I figure that in the neighborhood of 2500 men would be required.

Q. On the average each year?

A. Yes, sir.

Q. And what is the length of the working season in each year that you have figured on?

A. I figured on eight months.

Q. Based upon your experience, what number of men would it in your judgment be necessary to transport to the work in order that you might keep the contractors supplied with 2500 men on the average during the season?

A. I figure not less than six times the number of men that were employed on the work regularly; that is, if 2500 men were required, you would probably transport not less than 15,000 men to the work.

Q. The cost of transporting these 15,000 men to the work is a part of the extra cost which you have estimated, over and above the price paid to contractors for doing the work?

A. Yes, sir.

Q. Your Ex. No. 2 is based upon doing the entire work by contract, is it not?

A. Yes, sir.

Q. Grading work?

A. Yes, sir.

Q. In your judgment, how does the economy of that plan compare with the economy of the Railway's attempting to do it or a part of it at least, itself?

A. Why, I think it is the most economical way of doing it

Q. And why?

A. Because any work which would be done by the Railroad Company itself would have to be done without an operating organization, if it is done during the construction period; and if it is done after the construction period, while operation of commercial trains were being handled, it would interfere seriously with such operation. Therefore, the most economical method of carrying out the work, in my opinion, is altogether by contract.

Q. I think you have stated in your testimony that in estimating the cost of transportation you take the present tariff as the amount of the cost; am I right about that?

A. Yes, sir.

Q. Now, let me ask you whether you take that tariff because it is the tariff, or you take it because you estimate that that would be the actual cost?

A. I take it at tariff; first, because a large part of the transportation of both men and supplies and material would be over other lines—connecting lines—in order to expedite the work. For such of it as was handled over the system itself during construction, the cost would necessarily be much higher than after the line was fully completed; and that is for the reason that the operation would be over a very incomplete railroad, with a skeleton track very largely, the track rough, so far as line and surface are concerned, the passing-tracks, terminals, such

as round-houses, all facilities of that nature incomplete, water-stations, fuel-stations not complete; so that in every way the cost of handling either freight or passenger, during construction period is very much increased, and I doubt whether tariff rates would cover the actual cost of work of that kind.

Q. And you do not therefore take tariff rates for the purpose of returning an income to the Company out of construction account, but because you think it would cost at least that; that is as I understand your testimony.

A. Yes, sir; I think it is certainly none too high to cover the cost of such transportation.

Q. On page 72 of the Reporter's minutes of your testimony as given on the second day's hearing, there appears this question by the Attorney General in cross-examining you: Speaking of the method and foundation of your Ex. 2 and of our use of the present cost of construction as a basis for that exhibit, he says: "Q. That is, in other words, Mr. Hogeland, it is a method which gives a very much larger value to any railroad property than could by any process of reasoning be given to it in any other way?" and after some colloquy between the Attorney General and my humble self, you give this answer: "I think this method gives a larger value to the Great Northern than would be obtained by some other methods which might be used." Will you say, Mr. Hogeland, what you mean by that answer and what you meant by "some other methods which might be used."

A. I had in mind the method of original cost.

Q. And what you meant by that answer was that the original cost of the Great Northern might be less than the present cost of acquisition of real estate and construction and equipment?

A. Yes, sir, that the original cost of construction might be less than the cost of reproduction.

Q. I think the very last question asked you in cross-examination was this: "I just want to ask you in a general way,

whether this estimate that you have now placed before us of the cost of reproducing this road actually represents either the cost of the road or its present value." To which your answer was, "No, sir, not necessarily either." Now, what does Ex. 2 present, what was it intended to present?

A. It presents my judgment of the cost of reproduction as of the date given, June 30, 1908.

Q. Now, I would like to have you confine your opinion to the mere physical property, considered as a safe, economical, practical convenient operating commercial tool, and I will ask you if you have an opinion as to the comparative value of a new railroad property, presently constructed, and presently turned over to the operating department for operation, as compared with the Great Northern physical property as it now exists.

A. I would consider that as a tool for handling transportation, the Great Northern as it exists today in Minnesota is much more valuable than the cost of reproduction would indicate; and I base that largely on what time and the elements, together with the wrok which has been done on the railroad, have produced,—something that can only be produced by time and the action of the elements.

Q. Will you state how time and the action of the elements tend to improve the physical property?

A. The road-bed of a newly constructed line is necessary in a very loose and unsettled condition; settlement takes place gradually. The bottom of the embankments finds a solid foundation in the soil, marshes and whatever the nature of the ground is on which it is constructed—the passage of trains assists that, rains and other action of the elements, also the work which the track-forces do on it from time to time,—all increase the solidity, and therefore the safety of the road-bed, and make it a better support for the track, therefore a safer support. The action which takes place in cuts on the sides, sloughing down by

the weather and being removed by track-forces, and the opening of the ditches all tend to improve the roadbed. This is something that is only accomplished by time and the action of the elements. Furthermore, with the many streams that are crossed by a new line where channels are changed it takes time for such water-courses to adjust themselves to the new condition and riprap which may be placed for protection, at first loose, requires time to become settled and compacted and fulfill its mission, so that in all such ways the older railroad is in every way a better and safer tool for transportation than a newly constructed line.

Q. You know that there has been a claim in the Northern Pacific case (and doubtless will be a claim in this case) that there has been considerable depreciation in the value of the respective properties, and that they are worth considerably less than they would be if newly constructed; I would like to have you give your judgment as to how any depreciation of anything connected with the operating of the Great Northern system compares with the value of the appreciation as you have stated it existed, in your judgment.

A. Why, my judgment is that any depreciation that it would be right to figure is much more than offset by the appreciation of the roadbed. For instance, ties after the period of reproduction in Minnesota—which we estimate would require eight years—I think the ties would be in practically the same condition that they are at the present time in the railroad.

Q. What is the average life of a tie?

A. Somewhere from eight to ten years. I think that a number of the ties would have been removed from portions of the line that had been built in the first or second year by the time they were all completed, and nothing has been included, of course, in our estimate for any such renewal.

Q. And why?

A. That would be a maintenance charge.

Q. And a charge to operating expense?

A. Yes, sir; as against any commercial business which might have been done during that eight-year period; so that everything indicates to me that so far as ties are concerned, when these lines are reproduced, the Great Northern system in Minnesota, they would be in practically the same condition as they are today, so I can't see where any depreciation could be applied to the ties in that way.

Q. What have you to say about rails? What kind of treatment do they get during construction over soft embankment?

A. The rails during the period of construction get the hardest kind of usage, because of the unsettled condition of the embankment, the passage of trains over it, and in that way and for that reason wherever we can we like to use a second-hand rail to begin with in a newly constructed line, to be replaced afterwards, after the railroad has become settled, by the new rail. That is done to save damage to the higher priced rail, the better rail, during the earlier period of settlement.

Q. Have you included anything in your Ex. No. 2 in your estimate of the present cost of reconstruction of the Great Northern system in Minnesota, or in your Ex. No. 8, with regard to the system, for depreciation of ties or rails during the period necessary for construction and the use for construction purposes during that period?

A. No, sir.

Q. And why not?

A. Because anything of that kind would be charged against maintenance.

Q. And I think you have stated already that in your judgment the road could not be operated commercially at a profit during any period of construction.

A. No, sir; that has been our experience on practically every piece of line under construction; that if we started commercial business during the period of construction it was practically

at a loss, the only advantage in doing it being to satisfy the community and to build up our industries.

Q. Now, take it all in all, I ask you how in your judgment the Great Northern physical property, bearing in mind all depreciation which may be rightly claimed with regard to buildings, etc., compares in value with a view to economy of operation, safety of operation and speed of operation, etc., with the value of a new system presently constructed and presently handed over to the operating department; whether it is in your judgment of far greater value or some greater value, or far less value, or some less value than the new system.

A. My judgment is that it is of a far greater value than a newly constructed line.

Q. Your judgment is, then, that any depreciation which may be properly claimed is far overbalanced by the advantages of time and care and good "housekeeping" upon the line?

A. Yes, sir.

Q. Now, would you apply the same principles to the timber bridges and timber culverts that you have applied to ties and rails?

A. So far as depreciation is concerned?

Q. Yes, during construction.

A. Not to the same extent, because we usually get longer life out of timber bridges and timber culverts than we do out of ties. But at the same time, decay would have started in, and they would be approaching the condition that all timber bridges and timber culverts are on the average in the lines today.

Q. During your experience in the engineering department of the Great Northern road, stations at various places have become obsolete or been discarded for some reason, as insufficient, and new stations have been constructed; at Barnesville I think that has been the case, at Wayzata I think that has been the case twice; at St. Cloud a new station has been constructed, and the old one discarded; and so at Fergus Falls and Crook-

ston; and I think coal stations have been discarded and replaced quite generally; and so with water stations and track-scales because insufficient for the weight of the traffic which now is established upon the Great Northern, and other similar first-class well-organized and well-conducted systems; am I right about that?

A. Yes, sir.

Q. Does your statement, Ex. 2, comprehend or allow for the present cost of construction of any such discarded, obsolete or replaced scales, stations or water-stations, coal stations or passenger or freight stations?

A. It covers only what exists today.

Q. It does not cover, then, the cost of construction of any building which has been destroyed or which has been replaced by another building?

A. No, sir; not unless the building still exists and is used for some other purpose.

Q. Do you know whether the railway commission has from time to time ordered the Great Northern to replace track-scales with new, larger and better track-scales?

A. No, I can't say as to that.

Q. But whether they have or not, the old track-scale which has been put out of commission and replaced by a new one has not been included within your exhibit?

A. No, sir.

Recess until 2 P. M.

AFTERNOON SESSION.

RE-CROSS EXAMINATION.

By Attorney General YOUNG:

Q. You desire to be understood, Mr. Hogeland, now, do you, as testifying that the corrections that you have made this morning to the errors appearing in your former exhibits cover all the errors that existed in those exhibits?

A. Yes, sir; so far as we have discovered errors.

Q. You gave some testimony this morning as to the prices paid by your Company for ties in 1908; did that cover any greater period than 1908?

A. Do you refer to that exhibit we put in?

Q. Yes, I believe you did reduce it to an exhibit.

A. Ex. 50.

Q. That covered several years. The prices given by you in your Ex. 2 do not agree with the prices paid by the Company in any one of these years that are mentioned in your Ex. 50, do they?

A. No, sir.

Q. What did you intend to prove by Ex. 50?

A. It was made to show what ties had actually cost the Company for various lines built since 1898.

Q. Did you intend it to modify the rates given by you as the cost for the item of ties in your estimate of reproduction contained in Ex. 2?

A. No, sir; not to modify it.

Q. This is not intended to apply to the same period of time as is covered by your Ex. 2?

A. No, sir.

Q. Your Ex. 2 purports to be your estimate of the cost of reproducing the road as of June 30, 1908?

A. Yes, sir.

Q. And I think you stated in your former examination that the price of ties as given in the item of your exhibit 2 which relates to ties, was not the price paid by the road on and prior to June 30, 1908, but was in fact the price which you believed they would have to pay during a period of eight years in the future?

A. Yes, sir; along that line. I don't know that I mentioned during the period of eight years, but that it would be what I considered an average price that we would have to pay for the ties in reproducing the system.

Q. It is not correct, then, to say that your estimate of the cost of reproduction is limited to June 30, 1908, and is based upon the actual market values of that date?

A. No, so far as the ties are concerned, that is not strictly correct.

Q. And it is not strictly correct as far as labor is concerned, either?

A. I think it is.

Q. Didn't you testify this morning that you took into account the difficulty in obtaining men and a great many of the possibilities that might arise about the difficulty of getting so many men at one time?

A. Yes, sir; I thought that would apply equally to 1908.

Q. That wasn't a condition which existed on June 30, 1908, was it?

A. Yes, sir; it was; one of these statements which I presented, Ex. 52-A, covers the construction of the Billings and Northern line, and you will notice during 1908, in order to maintain an average force of 528 men per month on that job, we actually sent there 14,185 men.

Q. Where did you send them from?

A. Partly from eastern terminals, St. Paul, Minneapolis, Duluth and Superior, partly from Spokane, some from Butte, some from Kansas City.

Q. Where does that road begin and end?

A. It begins at the junction with the Northern Pacific near Laurel, which is twelve miles west of Billings, and runs to a connection with our line from Great Falls to Neyhart, at a point near Armington, a distance of nearly 200 miles.

Q. And you entered into that computation the cost of transporting men from St. Paul, Minneapolis and Duluth to that point?

A. Well, this statement is made to show the number of men. The cost is not shown in the statement. It is made to show

the large number of men that it was necessary to send there to maintain the ordinary working force.

Q. That particular branch, Mr. Hogeland, is remote from the labor supply, is it not, and could not be said to be on a parity with the condition in Minnesota?

A. I think it is, except we have to transport our men farther.

Q. It is entirely likely, is it not, that a great many men would not want to go so far to engage in railroad work?

A. I don't think that has much effect on it—the distance they have to go.

Q. As a matter of fact, Mr. Hogeland, when a railroad is about to be constructed, that is, any considerable mileage of railroad is to be constructed, it creates a demand for labor, and those who are seeking employment learn of the demand that exists in that place, and that therefore a demand of that kind creates a local supply to a large extent, does it not, and has a tendency to concentrate labor at the place where the demand is?

A. I don't think that that is the case.

Q. Isn't it true that labor is always seeking a field of employment and is to be found at the place where the opportunity for labor exists?

A. Why, no, I think it is generally the employer wanting the laborer, so far as railroad work is concerned.

Q. The same law would apply to railroad work as applies to harvest work, would it not? Isn't there a very great migration of laboring men to the harvest fields at the time when the harvest season arrives, because they know that at that time there is a demand for labor in the vicinity of where grain is raised?

A. Yes, it is true that a great many men do seek the harvest fields.

Q. And it is also true in a general way as to all industries, is it not, that where the demand exists there the supply will be apt to concentrate to a large extent?

A. No, sir; I can't agree with you in that.

Q. In other words, you want to go on record as saying that there is something different in the railroad industry from what is true of other industries?

A. No I want to be understood as meaning, so far as my experience goes, that whenever a piece of railroad construction is undertaken the men do not flock there, but they have to be sent there.

Q. Well, they have to be sent there from the centers of population; you don't find them out on the plains, do you; when they are not engaged in labor, you find them at the centers of population, don't you?

A. Yes, as a rule.

Q. If railroad work was to be undertaken in the vicinity of St. Paul, Minneapolis and Duluth, there would be a good deal more likelihood of there being a sufficient supply of labor than if the same work was undertaken at a distance of four or five hundred miles from those cities and in a locality where there were no large cities?

A. Yes, I think that is true.

Q. The proportion of men who engage in the labor of either constructing railroads or any other construction work is gauged somewhat, too, by the density of population, and labor is more readily found in an older state than in an entirely new one?

A. Well, that might be true for a very short period, but I think the farmers in Minnesota are pretty nearly occupied in taking care of their own work; they have very little help to turn over to a railroad construction enterprise.

Q. What proportion of the population of Minnesota is engaged in farming?

A. I can't tell you.

Q. It is very small, isn't it?

A. I know that any labor that we do get in that way as a rule comes from the farming population.

Q. Isn't it a fact that nearly all the population out in the newer states is engaged in agriculture?

A. Yes, sir; pretty largely so.

Q. And a man engaged in farming doesn't give up his work to go building a railroad, as a rule?

A. No, sir.

Q. Now, Mr. Hogeland, isn't it a fact that the class of men you employ in railroad construction, at least a considerable proportion of them, are men who do not work for long periods consecutively; in other words, are they not men who after working for a short time and earning some money, draw what is coming to them and take a vacation?

A. Unfortunately that is the case.

Q. And when the vacation is over and the money is expended they re-enter work?

A. We would like to get a different class, but it seems to be impossible.

Q. Well, answer the question: Don't they enter the same employment again?

A. No, our observation is they seem to move on.

Q. Where do they go?

A. I can't tell you.

Q. Well, now, isn't it a fact that you frequently employ the same man four or five different times during the same season on the same identical work?

A. I think it would be safe to say that you frequently employ the same man a second or third time.

Q. And each time that he is employed he is entered as a new man, isn't he?

A. I don't exactly understand what you mean by "entered as a new man." His name, of course, would be the same.

Q. But it is a new employment, and if you employ a man, for example, and he worked for you ten days and quit, and after the lapse of a week he came back and took service with you

again, your records would show the employment of two men instead of one; that is, each period of employment of a man would appear to be the employment of a different individual?

A. Well, if you mean that that would affect this Ex. 52, it doesn't enter into that, because this shows the number of men transported.

Q. Without regard to whether it affects that or not, just answer this question, isn't that true, that if you employ the same man over again, your records would show the employment of two men instead of one?

A. Why, I don't understand what you mean by the employment of two men instead of one.

Q. Well, you speak here in your testimony about it requiring four or five times as many men in connection with a piece of construction work as are employed on that work at any one time.

A. No, I didn't put it that way. I said we sent out four or five times as many men as were employed at one time.

Q. Sent them out from where?

A. From the labor centers and wherever they were sent from.

Q. Well, now, suppose a man such as the one I referred to was at work on your road, and when he quit to take the periodic vacation he retired to a town eight or ten miles distant, and having there enjoyed that periodic vacation, he returns to work; you would call his transportation from the place at which he had temporarily sojourned to the work the transportation of a man, of course?

A. If he went back to one of the labor-centers, he might come out again then, and be included in this statement.

Q. But if he went from a neighboring town?

A. No, sir.

Q. Don't you keep any record of transportation of men from adjacent cities?

A. We don't send them that way; he would probably walk on to the job, and we would not have any record of his transportation.

Q. Well, now, just to make it plain to us, what class of men is the transportation of men for? that is, I mean men transported from what particular places. Have you got the record of it?

A. Are you speaking now of this particular Billings & Northern?

Q. No, I am speaking of your general practice in sending men to a place where you are carrying on construction.

A. As I say, they would be shipped from the labor-centers, which would be the eastern terminals, St. Paul, Minneapolis, Duluth and Superior. Butte is a pretty good labor market, Spokane, Seattle, and so far as this Billings & Northern line is concerned, a good many men were sent from Kansas City.

Q. Suppose a man was working on your Brown's Valley branch and he went from Willmar, would you have a record of it?

A. We might, if he was sent on transportation; we wouldn't if he bought his ticket and went there.

Q. But if he applied to your Company for transportation at any one of those stations with a view to engage in construction work, you would give him the transportation, wouldn't you, if you wanted men?

A. Yes, sir; if we wanted men, probably would.

Q. And from wherever or whatever station he received the transportation, I suppose, charge up his transportation in connection with that construction?

A. Yes, sir.

Q. Well, then, the question that I asked you a short time ago would be true, would it not, that suppose a man who had been working for you and who had temporarily quit and returned to his work, came to you a second time from a town only a short distance away, provided that your agent there gave him

transportation, that would be called "transportation of men" for that work?

A. Yes, he might get transportation and go to the work that way.

Q. And with all that class of men, where the point from which they are transported would be near to the work or far from it, it is all one transportation of men for that construction?

A. If he was sent there for that purpose; yes, sir.

Q. And is included in your estimate here of the number of men that you are obliged to transport?

A. Yes, if it happened that way.

Q. Well, doesn't it frequently happen that way?

A. No, sir; very seldom.

Q. Now, do you know?

A. Yes, sir; I know very well. These men, if they are going on these sprees that you speak about, generally do it very close to the work, lay off for a week or two, or a few days, and come back to the work again.

Q. It depends on whether they strike "a good town" near the work?

A. Well, we generally find those things follow up pretty closely.

Q. It is, unfortunately, true that saloons follow up the work closely, for the purpose of getting the patronage of that class of men?

A. Yes, sir; very unfortunately.

Q. And that is the cause, undoubtedly, of a great many of them quitting the work, isn't it?

A. I think so.

Q. How are these transportation expenditures vouchered, how do you keep track of them?

A. They are entered up in the accounting department, the charges are made in the accounting department against the par-

ticular work for which the men are sent out.

Q. And the particular place from which and to which the transportation occurred is entered?

A. Yes, sir.

Q. And of course, you don't assume to give that in your exhibits here?

A. No, sir; I simply gave the number and didn't even designate where they came from.

Q. And you didn't undertake to ascertain, and have no means of knowing now, whether the men that you referred to as having been transported, you transported long distances or short distances?

A. No, sir; I didn't attempt to show it either. It could be shown all right, but I didn't show it.

The MASTER: It is actual transportation, however, is it? Your exhibit here shows actual transportation.

WITNESS: Yes, sir.

Q. Some distance?

A. Some distance, and generally from a labor-center.

Q. And when you charged them up as an item of cost you charged them at the regular transportation rates?

A. That is my understanding, yes.

Q. Returning to your Ex. 50, which relates to ties, where were those ties obtained that are referred to on Ex. 50?

A. Part of them from Minnesota points and part from Western points—Montana, Idaho, Washington and British Columbia.

Q. Well, the Washington, Idaho, and British Columbia ties were not used in Minnesota, were they?

A. No, sir.

Q. Were the Minnesota ties used in lines outside of the state, or in lines within the state?

A. Both; Minnesota and North Dakota.

Q. Now, the first line you have mentioned here is Cloquet to

Boyleston, Deer River to Fosston, 126 miles, constructed in 1898, and you give the average cost of ties used in that line at 68 cents; what kind of ties were they?

A. I would have to tell you that simply from recollection; I think pretty largely tamarack ties.

Q. Have you any recollection—

A. Some cedar.

Q. Have you a sufficient recollection to feel sure about it?

A. Only in a general way.

Q. Well, now, how did you come to put the cost in in that way, Mr. Hogeland? Why didn't you give us the price that you paid for oak ties and the price paid for cedar and tamarack, separately?

A. We couldn't have done that; our ties are not separated in the accounts.

Q. Where were those ties obtained, can you tell that?

A. Partly from along the line—

Q. That is, foreign to that particular branch of the road?

A. Yes, sir; partly from along the line, and partly sent in from other towns in the northern part of the state. They were all obtained at no great distance from the work.

Q. You testified this morning that Cloquet might be called a market center for ties in northern Minnesota; what kind of ties are to be obtained chiefly at Cloquet?

A. Pretty largely cedar; some tamarack.

Q. Aren't there oak ties to be obtained there, too?

A. Some, but not any great quantity.

Q. Well, how about the condition in 1898, wasn't there a good many oak ties obtainable there then?

A. I think there were some obtained then, but the oak-tie district was farther west; for instance, along our Park Rapids line.

Q. Well, this line ran west from Cloquet, didn't it?

A. Yes, sir, all the way through to Fosston.

Q. So that this line was in the vicinity of the oak-tie region at the time it was constructed?

A. That is true.

Q. And the fact is that there were oak ties obtained for that line in that oak region?

A. Yes, I think it is true that there were some oak ties.

Q. And that is probably the reason why the cost appears to have been 68 cents per tie, isn't it?

A. Yes, that may account for some of it.

Q. Now, that Hibbing to Virginia line, constructed in 1899, what kind of ties went into that?

A. They were mostly tamarack ties.

Q. And it was constructed the year following the construction of the Cloquet to Boyleston line?

A. Yes, sir.

Q. The average cost of ties on that line was 46 cents?

A. 46.6 cents, yes, sir.

Q. There was no material difference, was there, in the value of the same kind of ties between 1899 and 1898?

A. Oh, there hadn't ought to be any material difference; no, sir.

Q. So that the very much less cost of each tie on this branch probably results from the fact that there were fewer oak ties, does it not?

A. That may have a little something to do with it.

Q. Must it not necessarily result from that?

A. Not altogether, because the price of ties varies a good deal with your necessities and whether or not you can spread your requirements over a little longer period.

Q. Now, the construction of line from Brookston to Ellis—that is up in the Misaba region, too, is it not?

A. Yes, sir.

Q. —built in 1901—the ties here appear to have cost 45 cents?

A. Yes, sir.

Q. What kind of ties went into that line?

A. Pretty largely tamarack, and some cedar.

Q. But very few oak?

A. Yes, sir; I think no oak.

Q. And where is the line which you have designated Jennings to Boundary?

A. That is in Montana.

Q. And was constructed in 1902; there the ties cost you 32.9 cents apiece?

A. Yes, sir.

Q. And those were obtained locally?

A. Practically all locally, yes.

Q. But in 1902 you seem to have constructed the line from Kelly Lake to Nashwauk, in the Misaba region; there the ties cost you 37.6 cents apiece?

A. Yes, sir.

Q. That is in Minnesota?

A. Yes, sir.

Q. And those are tamarack and cedar, I suppose?

A. Yes, sir; I think practically all tamarack on that line.

Q. The two lines constructed in 1903, Souris to Westhope and Granville to Mohall, were constructed in North Dakota, were they not?

A. Yes, sir.

Q. And in those lines the cost of ties seems to have been quite high, which probably resulted from the fact that they had to be transported a long distance?

A. That is true.

Q. Very much farther than they would have had to be transported if the lines had been constructed in Minnesota?

A. That is true.

Q. Now, in 1904 you constructed the Columbia Falls to Rexford line; in what state is that?

A. That is in Montana.

Q. And in the same year you constructed the line from Thief River Falls to Greenbush, according to this exhibit?

A. Yes, sir.

Q. And what kind of ties went into that line?

A. I think nearly all cedar.

Q. Well, do you know?

A. Yes, sir; I will say practically all cedar.

Q. How do you account for the difference in cost per tie? Was there that much increase between the years 1902 and 1904, the construction of the Kelly Lake to Nashwauk line in 1902 having been supplied with ties at 37.6 cents and the price you appear to have paid on the Thief River to Greenbush line 63.1 cents apiece?

A. Well, they were not obtained locally. There would be some transportation charge in that that would account for a little of that expense.

Q. That line is located in the Red River Valley, northwestern Minnesota, and the ties had to be transported across the state?

A. Partly; yes, sir.

Q. To some extent across the state?

A. Yes, sir.

Q. Well, do you think that item of increased cost depends practically on transportation?

A. Why, that would enter into it, but as I said before, the necessities as to whether you have to make a quick purchase or can spread it over some little time has something to do with the price.

Q. That was the only line constructed in Minnesota in 1904?

A. Yes, sir.

Q. In 1905 you didnt construct any line in Minnesota?

A. No, sir.

Q. So that the prices paid for ties in that year on the lines that you constructed were all prices paid outside of this state

and at some distance from this state, and they range considerably higher than the prices paid on the average in this state, do they not?

A. The line from Thief River Falls to Greenbush?

Q. No, I am talking about the lines constructed in 1905.

A. Yes, they average somewhat higher on account of transportation charges.

Q. And I presume that some of the ties, if not most of them, for the construction of those branch lines were obtained in Minnesota?

A. Yes, sir; partly from Minnesota and partly from the west, in Montana.

Q. In 1906 did you build any line in Minnesota?

A. No, sir.

Q. Where is this line Thorne to Dunseith?

A. That is in the northern part of North Dakota.

Q. That was a little extension of seven miles?

A. Yes, sir.

Q. And that evidently was an emergency construction?

A. Yes, sir; it was.

Q. Because you have put the ties in at $1.13; what kind of ties were they?

A. I think they were cedar.

Q. Obtained from Minnesota?

A. Yes, sir.

Q. In 1907 you constructed the Kelly Lake to Fermoy line?

A. Yes, sir.

Q. And you appear to have paid for ties on that line 64.9 cents?

A. Yes, sir.

Q. What kind of ties were they?

A. Partly cedar and partly tamarack.

Q. Were there any oak?

A. Not that I was aware of.

Q. Well, do you know whether there was or not?

A. No, I can't say positively; that is my recollection.

Q. Well, you didn't examine your records for the purpose of ascertaining that fact?

A. No, sir.

Q. And that is the only line that you built in Minnesota that year?

A. Yes, sir.

Q. If you took the average prices paid in your experience up to the time that you made this estimate as embodied in Ex. 2 for lines constructed in Minnesota, do you know what average price you would get for ties?

A. No, sir; I haven't tried that.

Q. Well, you do know, do you not, that it would be a considerably different figure from the one that appears in item No. 5 of your Ex. 2?

A. Yes, I think it would be less.

Q. Considerably less, wouldn't it?

A. It would be less, yes.

Q. It would be about one-third less, would it not?

A. I can't tell you that.

Q. At least that. It is true, is it not, Mr. Hogeland, that the ties in your road as it existed in Minnesota on June 30, 1908, cost the Company at least one-third less than the amounts that you have specified in your item 5 of Ex. 2, in your so-called cost of reproduction?

A. I wouldn't want to say it was one-third less; I would say it was less.

Q. And on June 30, 1908, a very large proportion of the ties as they existed in the road were in a somewhat advanced condition of decay?

A. Why, the usual depreciation had taken place, and they were in the condition that they would be in on any of the going railroads of the same general character.

Q. No allowance was made for that either?

A. No allowance is made for depreciation of ties.

Q. The tamarack ties are cheaper than cedar and fir, ordinarily, are they not?

A. Yes, sir; a little cheaper.

Q. And you said that in the Kelly Lake Fermoy line the ties were cedar and tamarack mostly? In about what proportion, can you tell?

A. Yes, sir; I can give you a statement. The report made to the railway commission showed 69,846 tamarack, 4,345 cedar, and 112 pine.

Q. Mostly tamarack?

A. Mostly tamarack.

Q. The average price of ties as given in your Ex. 50 as used in that road is 64.9 cents; the price of cedar ties as given in item 5 of your Ex. 2 as to the alleged cost of reproduction is 75 cents, and the price of tamarack is given at 65 cents?

A. Yes, sir; that agrees very closely with the prices we used.

Q. But while we are on that subject, Mr. Hogeland, I want to call your attention to the estimate of oak ties as contained in item 5 of Ex. 2 and ask you whether at any time in the experience of your road you ever paid the prices given there.

A. No, sir; not to my recollection.

Q. I would like to know, then, why you mark this estimate as if June 30, 1908; why didn't you say as of some time in the future when the road is built?

A. All of the items, the inventory is taken off as of June 30, 1908 and I have explained a good many times my reason for putting a price on ties which it seemed to me we would have to pay to secure the number required and in the time required for the reproduction.

Q. That is all your opinion as to what might happen in the future?

A. Yes, sir; that is based on what has happened in the past four or five years.

Q. Are you able always to foretell what is going to happen in the future by what has happened in the past?

A. No, but it is a pretty safe guide.

Q. Well, in this particular instance it is a guide which gives you a good deal bigger valuation of your railroad than if you were to stick to the facts, doesn't it?

A. I think it gives a fairer valuation.

Q. That is your idea of fairness, is it?

A. Yes, sir; it is.

Q. Now, you mentioned this morning, and you have referred again in your cross-examination now, to the time of reproduction of this railroad; I think we went into that on your former cross-examination, and I don't want to go into it now except just to ask you a question or two: How many miles of road have you in Minnesota?

A. Total mileage of tracks, 2779.30.

Q. Do you know how many miles there are, in the Milwaukee-Pacific extension?

A. No, sir; I do not.

Q. Do you know approximately?

A. To what points did you have reference?

Q. Well, from the point where they commenced the construction of their Pacific extension in South Dakota, to the coast.

A. I should judge that was in the neighborhood of 1,200 miles.

Q. That would be 1200 miles of main line?

A. Yes, I should think it would be approximately that.

Q. How many miles of main line have you in Minnesota?

A. 2056.07; 99.81 of second track.

Q. Do you know how long it has taken the Milwaukee road to build its Pacific extension?

A. I think they have been at it for about five years.

Q. Do you want to go on record as saying that? Do you know?

A. No, I don't know, but I am simply telling you about from the time they began their work.

Q. Do you know that they actually have been at it less than two years?

A. No, sir; I know they have been at it more than two years.

Q. But you were including the time from the period when they first attempted to acquire right-of-way?

A. From the first beginning of their enterprise.

Q. I am asking about the construction of the road.

A. What do you mean by the construction?

Q. Well, starting out with the right-of-way. I suppose that you concede that you don't have to buy your right-of-way over again, don't you? You have that.

A. In a reproduction you certainly have to buy the right-of-way and you have got to make a survey. That is all a part of your eight years.

Q. You are not only going to take up the road, then, but you are going to divest yourself of the right-of-way and acquire it over again, I supposed you were going to start out with the assumption that the right-of-way was there and that you only had to reproduce the road.

A. Why, doesn't the purchase of the right-of-way enter into the reproduction of the road?

Q. Well, how much time were you going to give to purchasing the right-of-way? Let us get at your figures a little more definitely.

A. I consider that would be going on pretty largely during the entire period. It would certainly have to be begun some little time in advance of the actual beginning of construction.

Q. But you wouldn't leave it to the construction crew to buy the right-of-way; at least you would have another crew to do that, so that the construction would not be delayed by the acquisition of the right-of-way?

A. What do you mean by the construction crew?

Q. The people building the railroad.

A. What people?

Q. Well, I don't know. I can't get into your mind to know what you have in mind. There is somebody, I suppose, who is going to build the railroad.

A. Certainly, but the laborers wouldn't acquire the right-of way.

Q. Well, the Company could acquire the right-of-way during the same time, could they not, that construction work was going on?

A. The first operation, necessarily, would be to begin the surveys.

Q. Well, I won't waste any more time on that.

A. I thought maybe you wanted to know what my idea was.

Q. Well, I am sure we would waste time on it; let it go. The Milwaukee road is already doing business over its Pacific extension, is it not?

A. To a limited extent. I think it will take them four or five years to get a railroad that they can do much business on.

Q. They are already doing a freight business, and they advertise they are going to put on fast passenger service on the 1st of July. Do you calculate they will do a little business when they do that?

A. Yes, sir; but it will take them a good while to get a completed railroad.

Q. Your counsel asked you this morning about this so-called constant that you used in computing the total cost to the Company of grading work, and you stated, I think, that that included all the additional items of cost to the Company charged to grading in excess of the contract price?

A. Yes, sir.

Q. Now, calling your attention to the item on Ex. 4 relating to the construction of the Brookston to Ellis branch, upon the Misaba division of your line, that branch has a mileage of

46.49 miles, and you have given in this exhibit, as I understand it, the total yardage of earth, hard-pan, loose rock and solid rock that entered into that construction up to the time that your books of account upon construction of that line were closed, and that the total yardage was 1,069,824 yards; is that correct?

A. No, sir; that represents the amount for which contractors were paid.

Q. This yardage represents the amount for which contractors were paid?

A. Yes, sir.

Q. And the average amount paid to contractors was 22.4 cents?

A. Yes, sir.

Q. Now, then, the amount appearing in the column headed Total Charges is not the product of the multiplication of this total yardage by the 22.4 cents, is it?

A. No, sir.

Q. It is the product of the multiplication of that yardage by 33.5 cents, is it not?

A. Well, it was not obtained that way.

Q. Well, how was it obtained?

A. It is the charges to grading as taken from the construction book.

Q. That is the total charge to construction on that line as appears from the book?

A. To grading.

Q. How long was that account kept open after the contract was settled?

A. There are entries in the book for three years after the contract was closed.

Q. Well, now, any items that have been added to the cost of construction during that period of four years, or at least the amount (I will put it) that is charged to construction during

that period of four years after the contract was settled, includes, does it not, the movement of a very large amount of yardage, more than was moved by the contractor?

A. It involves the movement of some additional yardage.

Q. How much?

A. I can't tell you.

Q. As much as 300,000 yards?

A. Oh, no, sir.

Q. Are you sure about that?

A. Yes, sir. I wish to say in regard to the additional charges to grading, especially so far as extra bills are concerned, that they are often made up partly of yardage moved; but it is done in such a way that it is very difficult to measure it, and if it was measured it could not be returned to the contractors at the contract price; therefore it is paid for as an extra bill. That is one of the items that enters into the additional amount per yard that must be placed on grading work to cover the full cost, in addition to what is paid contractors.

Q. I understand that additional full cost, as you call it, includes overhaul and the transportation of men and materials and all those things?

A. And extra bills which are not covered by the contract price.

Q. But it also includes, does it not, any additional yardage that is moved in completing the construction of a line and paid for out of capital?

A. I don't understand that question.

Q. Well, suppose for example, that there were 100,000 yards of earth moved in the completion of that line, after the original contract was closed, the cost of that work would be charged up as a part of the cost of construction, wouldn't it?

A. No, sir.

Q. It wouldn't? What would become of the item?

A. That would go in as an addition or an improvement.

Q. That would be paid for out of maintenance?

A. Well, I can't tell you how it would be paid for, but it would not be charged against the construction of the line.

Q. Well, now, isn't it a matter of fact in this particular instance, (and I don't want to go through this whole exhibit, I am just going to confine it here,) isn't it a matter of fact that there is a very large amount of yardage that appears from your books to have been added to the amount which you have mentioned here as total yardage, and which has been paid for in that item which is entered as total charge of the grading of that line?

A. No, sir; there is a very large yardage; there has been some yardage that is accounted for by the cleaning out of cuts and the picking up of sags, which was done immediately after construction, where the road-bed had settled and the cuts had sloughed in, and it is practically impossible to measure the yardage, and it is not included in any other way.

Q. What is the amount charged for it?

A. I can't tell you what the amount charged for it is.

Q. Whatever the yardage is it would be absolutely necessary, would it not, to add it to this yardage?

A. Why, it is yardage that you can't arrive at; there is a tremendous amount of yardage that goes into railroad work, especially through the northern part of the state, that it is almost impossible now to measure up.

Q. Have you no means of knowing? Don't you keep any accounts of those things?

A. Where it can be measured, we do.

Q. Your books actually show there was some yardage went in there more than appears here, don't they? Your own books show it?

A. They don't show the yardage; they show that the work was done.

Q. They show that there was some yardage moved?

A. Yes, they show that there was work done, and, as I say, that was one of the items of extra charges to grading.

Q. Well, now, then, Mr. Hogeland, as a matter of fact, you obtained this 33.5 entry here in the colum "Average Cost per Yard" by dividing $358,535 by the yardage which appears here?

A. Yes, sir.

Q. 1,069,824 yards?

A. Yes, sir.

Q. You admit that that is not the correct yardage?

A. It is the yardage paid contractors.

Q. It is the yardage paid contractors, but it doesn't include the total yardage which is embodied in the item of total charge?

A. No, there is more yardage in there.

Q. Well, wouldn't it be necessary, in order to get a correct result over here in the column marked "Average Cost" to have divided the total charge by the correct yardage?

A. If it could have been obtained, that would be a good thing to do, but, as I have explained to you, two or three times, the total charges include an item of that kind—material which is moved as a part of the construction, but cannot be measured.

Q. And you get an absolutely unreliable result, do you not, if you divide the total cost by less than the total yardage, when you are seeking to obtain the average cost per yard?

A. Yes, sir; but if you can't obtain the yardage, that is one of the elements that goes to make that increased price necessary to put on the material over and above what you paid the contractors.

Q. But if you can't obtain the yardage, then you can't obtain this 33.5 item of average cost per yard, this figure?

A. I think it is as nearly correct as you can make it.

Q. Well, it is absolutely incorrect, is it not, if the total yardage is not given in the column headed Total Yardage, because you have divided the item of total charge, which includes the cost of that additional yardage, by less than the total yardage?

A. I have gone over that several times; I want to make it clear.

Q. Well, I am trying to make it clear that that isn't correct.

A. I want to make it clear in this way: that the increased cost of grading, over and above what you pay contractors under their contract, is made up of overhaul, transportation charges and extra bills. Now, those extra bills include a large amount of force-account work. Now, this was practically force-account work where this additional yardage came in. Now, this is the sum and substance of the whole thing.

Q. That is all right. I don't care what you call it as long as it is charged up to construction or to grading on that line; and if you are seeking to give us what you call an average cost per yard, it is absolutely necessary, is it not, in order that your average cost per yard be correct, that you divide the total cost or the total charge by the correct yardage?

A. Why, in that case you would have more yardage put into your line; it would result in the same thing when you got through; you would have more cubic yards in your line.

Q. That is all right, I understand that.

A. So when you got through you would have the same result.

Q. No, you wouldn't have the same result. This particular exhibit is gotten up for the purposes of justifying your what is called a "constant." Now, then, if that item constituting your so-called average cost per yard on the construction of a line or in the construction of any other line is incorrect, then there is no correct basis for your alleged arbitrary that you used?

A. You understand I didn't use that constant. These prices I have placed on the work are from my judgment. This exhibit was gotten up to show that there was a certain addition which must be made to the contract prices to cover the full cost of the work.

Q. Yes, but Mr. Hogeland, you came at us with this proposi-

tion and you have repeated it today, that from these matters which you claim are a verification of your theory, your 11.3 cents constant is conservative as you put it, and that it should be higher?

A. No; now, I didn't say that.

Q. Well, you at least said it was a conservative estimate and you felt justified in using it.

A. I said my figures were conservative that I have used in Ex. 2.

Q. But, as a matter of fact, Mr. Hogeland, you used even a larger constant than that, did you not, in your figures?

A. No, sir.

Q. Now, I think I can refresh your recollection, Mr. Hogeland, with reference to this item; it is true, is it not, that the smaller yardage that you use as a divisor of this total cost the higher average price per yard you will get?

A. Yes, sir.

Q. In this Ex. 4 for this line you used the yardage of 1,069,824; now, let us turn to item 2 of your Ex. 2 where you are putting in the total yardage in your System, and under item 37, Brookston to Ellis, we find a total yardage of 1,653,060; that is about 600,000 more yards than you show for that line on Ex. 4?

A. Yes, sir; but that is all work that has been done since construction.

Q. Well, it was done during this four-year period, wasn't it.

A. No, sir; part of it was. It was not charged in this construction account.

Q. There is part of it certainly charged in this construction account, you admitted that yourself a while ago.

A. Not of that amount there.

Q. Why, you said there was extra yardage, but you didn't know how much.

A. Yes, but I didn't say it came out of this.

Q. Now, tell me how you did find out how much there was

when you made up item 2 of your Ex. 2 if you couldn't find it out for the purpose of Ex. 4.

A. Well, that is work which was actually measured. This is additional.

Q. It could be measured, then, could it?

A. This additional work that was done since construction; yes, sir, was practically all measured.

Q. The total yardage that went into that line after the contract was closed could have been measured and the amount of it ascertained, at any time, could it not?

A. You mean that comes in to make this extra part of this extra charge here for construction?

Q. I will tell you what I mean. You testified a moment ago that the construction account on that branch of the road was kept open for four years after the contract was closed.

A. I said there were some charges added.

Q. During that time there was a considerable amount of work done on that branch of the road, there was more yardage you said added to it, you didn't know how much, but whatever that yardage was it wasn't added to the yardage which you gave here under your head of Total Yardage in Ex. 4; what I want to ask you now is whether or not at the end of that four-year period the additional yardage which had been added to the line after the contract was closed could not have been ascertained by measurement.

A. Why, yes, and it was ascertained; whatever had gone in as an improvement or an addition to the property.

Q. During that four-year period?

A. Yes, sir. It is not covered by these charges under the column of "Total Charges" opposite this line on Ex. 4.

Q. It is not embraced in that?

A. No, sir.

Q. Some of it is?

A. No, sir; not that yardage which is returned in Ex. 2, item 2.

Q. Under section 37 of that item?

A. Yes, sir.

Q. Now, when was that yardage added?

A. That was work done since construction, in the way of bridge filling, sidetracks, and preparation for ballasting.

Q. And when was it done, and where can it be found in your books, that is, under what heading?

A. It would be under the headings that I have mentioned.

Q. Will you direct the attention of the accountant for the state to the entry in your books, if he goes down there?

A. Yes, sir; I will point out all of that that I can.

Q. What did you do in this final estimate of the total yardage in the line with the amount of additional yardage which you say was added during that four-year period while the books were kept open and while the entries were made which aggregate the $358,535 appearing on Ex. 4?

A. Any yardage which was moved to make those charges are not shown in the additional work done since construction.

Q. They are disregarded in both exhibits, are they?

A. Yes, sir; except in this way, as I have explained: that your charges appear here in the item of $358,535 as the total charge to grading, but it was done as a force-account proposition.

Q. What do you mean by "force-account proposition"?

A. Paid for at actual cost and not by yardage.

Q. Well, that doesn't clear up the proposition. It was paid for and was charged up as a part of the cost of the line, wasn't it, and is included in this item "Total Charges" against that line for grading?

A. Yes, sir.

Q. Now, what I want to get at, and I wish you would make it clear to me and to the Court, how you justify taking that total cost and dividing it by only the yardage which was settled for at the time that the original contract was closed.

A. Because we have no means of arriving at the yardage which was moved in carrying out that kind of force account work, and that would be true where ditching or wagon-road changes entered into these extra bills. There is yardage moved, but because it wasn't measured and wasn't returned, we have no means of showing the yardage, and if we did have, as you state, it might reduce this so-called constant, but you would have more yardage as entering into the original construction.

Q. We don't care anything about that. I am now talking about your system of justifying your additional charges.

A. I want to make that plain if I can.

Q. That is what I am asking you. If your books showed that this was not the correct amount of yardage which was represented by the total charges of $358 535, why did you feel justified in coming into this court and swearing that the actual average cost of the yardage in that line could be ascertained by dividing this item of Total Cost as it appears here in Ex. 4 by the incorrect total yardage which appears on the same exhibit under the head "Total Yardage?" Didn't you know that you were swearing to this statement?

A. Well, of course, I wanted to tell the truth about it.

Q. Do you want to say now whether that is true or not true? is that the correct yardage or not?

A. To the best of my belief that is the correct yardage, used in the way we are using it and as I have tried to explain to you several times.

Q. Is that the yardage covered by this item of Total Charges?

A. No, sir; there is some additional yardage there, and that is true of many other lines, and for this reason: that a considerable amount of extra work is yardage moved, but it was not paid for that way, and therefore becomes an extra bill, and it is one of the elements that goes in to make up that so-called constant.

Q. Your testimony, then, is that this is not the total yardage

that was paid for by the expense of $358,535?

A. That is the yardage paid contractors.

Q. Please answer the question as asked.

A. No.

Mr. How: What do you ask?

Attorney General YOUNG: I am not asking you, I am asking the witness. Don't break in here.

Mr. How: May I not break in? I want the witness treated fairly.

The MASTER: I think that the examination is proper up to now.

Mr. How: Well, I don't think the question is proper. Let me protest that.

The MASTER: I think the witness can probably explain himself if there is any difficulty about the question.

WITNESS: I said no to that question.

Q. That is not the correct yardage?

A. It is not the total yardage.

Q. Then the item of 33.5 appearing in the column headed "Average Cost per Yard" is not correct?

A. Yes, sir; it is correct in the way I have explained it.

Q. Is that the average cost to the Company of the actual yardage in that line?

A. It is that actual yardage paid to contractors.

Q. You are arguing, not answering the question. You say that is not the correct yardage?

A. I don't think you are trying to understand me.

Q. I am trying my best to understand you.

A. Well now, let me go over it again, then. The increased cost of the work over what is paid contractors is made up of overhaul, transportation and extra bills. Now, extra bills include all work done by contractors, or even Company forces, if it is a part of the original construction properly chargeable to grading, and may include a considerable amount of yards moved

but not paid for that way, but paid for as a force account, or the actual cost; and this is an instance of that kind.

Q. Well, now, when that occurs, when there is yardage moved that is paid for by what you are pleased to term a force account, should not that additional yardage be added to the contract yardage when you are endeavoring to show the average total cost per yard to the Company?

A. If it had been returned and you knew what it was; yes, sir.

Q. Well, if you don't know what it was you can't possibly give the correct average cost per yard, can you?

A. You can, just in the way that this is intended to cover. I am explaining, or trying to, that that so-called constant includes a certain amount of work done that way.

Q. There are some items undoubtedly, Mr. Hogeland, that are properly in there, such as overhaul and cost of transportation, but there is also, by your own admission, an improper item in there because there is the cost in the column headed "Total Charges" for a certain amount of yardage that doesn't appear in the column "Total Yardage"; therefore by using the item in the column "Total Charges" as the dividend and the item in "Total Yardage" as the divisor, as the items are given here, you do not get the actual average cost to the Company per yard because you are not using the total yardage as a divisor?

A. Yes, but you have come as near getting the total yards as you can, and that would be true in a case of ditching or wagon-road change, where certain yards were moved but were paid for as an extra bill.

Q. Well, all of these items are made up in the same way, are they not, in this Ex. 4?

A. How do you mean in the same way?

Q. Just the same as that line from Brookston to Ellis.

A. Not necessarily so. This was made up to cover these items which I have gone over, the overhaul, transportation and the extra bills.

Q. There are very many of them that contain additional yardage which do not appear in the column "Total Yardage"?

A. No, sir; you can't say very many of them.

Q. Well, how many of them?

A. I think it would be confined to half a dozen of them.

Q. And in the case of that half dozen an average cost per yard is not correctly shown on that exhibit?

A. It is for the purpose that that was made.

Q. Well, wasn't that made to be correct?

A. Yes, sir; it is as nearly correct as it can be made.

Q. Why didn't you explain to us that it was only nearly correct?

A. It is correct for the purpose it was made.

Q. What was the purpose?

A. To show that it is necessary to add to contract prices a certain amount per yard to cover the full cost of the work.

Q. Then it was made for a purpose in addition to that, wasn't it, it was made for the purpose of showing that a very large percentage must be added; it is true, undoubtedly, that there must be something added; this was made in this way in order to show that that additional charge was charged and figured in this way, it has a tendency to show that fact, hasn't it?

A. It is all made up consistently, and it does show that it is necessary to add a comparatively large amount to cover the full cost of the work.

Q. Well, if the correct yardage moved was used in getting your average cost per yard, it would then be definite, wouldn't it? and if the correct yardage that was moved is not shown, then your result is a mere speculation?

A. No, sir; you are not putting it right. If the full yardage could be obtained, it would lower that so-called constant.

Q. Considerably, wouldn't it?

A. But it would increase the total yardage in the line, so that the result would be the same when you got through.

The MASTER: You mean to say, then, when you say there is additional yardage that doesn't enter into this element of per cent, that that nowhere appears in your computations?

WITNESS: That yardage which may have been moved and not measured, yes, sir; does not appear any place else.

The MASTER: It is not charged up as an expense of the work?

WITNESS: No, sir.

The MASTER: Except as it appears—

WITNESS: Except as it would appear in the increased price paid to contractors.

The MASTER: In other words, take that surplus that you speak of, it nowhere appears as the cost of the work except as you have got that total charge here?

WITNESS: That is right.

Attorney General YOUNG: The only object of it, your Honor, is to justify the very greatly augmented prices that he has used.

The MASTER: Your idea, as I understand it, is that he claims it cost 33.5 cents per yard, and as a matter of fact it didn't cost nearly as much as that per yard?

Attorney General YOUNG: Yes, that is the point.

WITNESS: If you had all of the yardage—

The MASTER: Yes, if you had all of the yardage in, it would show a lower cost per yard?

WITNESS: Yes.

Mr. O'BRIEN: But we do claim that in the cost of reproduction, where they apply these average prices, they have included every yard of earth that is moved; consequently they make a calculation which may be correct enough in itself, for the purpose of getting the average price per yard, and then apply that to the total yardage.

The MASTER: Of course if they should increase their total yardage and take their average here, it wouldn't come out right. But as I understand Mr. Hogeland, he says that nowhere ap-

pears; there is no increased cost on that account. He has just simply charged up the amount of yardage that there is here as an additional expense, but it don't come in again in finding the total yardage and multiplying that by the cost per yard.

WITNESS: That is correct.

Mr. O'BRIEN: Your Honor will remember that of the material moved there is an item of material not of record of over 2,000,000 yards.

The MASTER: Yes.

Mr. O'BRIEN: And we insist that these excessive prices were applied to every yard of material that was moved.

The MASTER: Yes, I understand your position is that he has counted this twice, if you please?

Attorney General YOUNG: Yes.

Mr. HOW: I understand that a contractor by the terms of his contract is paid so much per yard for moving material. Now, the contractor is paid that, and no more and no less, for yardage moved and paid for and measured as yardage. Now, there is certain work of a kind such that the yardage cannot be measured; that is a cost of the work just as much as the price paid to the contractor upon the measured yardage. Now, when they get through they estimate the cost per yard upon the total cost of the work, divided by the amount which has been paid to the contractor as yardage.

The MASTER: Yes.

Mr. HOW: Now, it is claimed, apparently, that for some inscrutable reason, but evidently bad, in 1901 they paid this contractor outside of the terms of the contract for this, to keep that amount of yardage down so that the average price per yard would be greater; but this appears nowhere else, and the witness has testified positively, time and again, that this extra work could not be measured as yardage. Doubtless it would be better for the Company if they could have measured it as yardage, but it was only of the extra bills that came in for work that must

be done. Now, yards of earth were moved, but not yards of earth that could be measured, under the terms of the contract, as yards and therefore had to be paid for as extra work. I think I am right about that.

Mr. O'BRIEN: You don't claim this extra amount was an amount paid the contractor for extra work in this particular line we are talking about?

Mr. HOW: I do claim.

Mr. O'BRIEN: You are mistaken about that, I think. I don't think you ought to testify in the case.

Mr. HOW: I don't care whether it was paid to the contractor, it wasn't measured as yardage under the contract. It makes no difference who does it, it was cost of the work.

Mr. O'BRIEN: Yes, but it was cost of a million and a half of yards instead of a million yards. We admit it was the cost of the work.

Mr. HOW: You have a chance to get at it from the records.

Attorney General YOUNG: We are not questioning that item of total cost, except we will question the right of charging up transportation in it. Wherever it was overhaul it was proper to pay it, but what I will claim is that the correct result wasn't obtained by dividing that total cost.

The MASTER: You question the average per yard?

Mr. O'BRIEN: Is it your experience in this case—

WITNESS: I think at the time I introduced this Ex. 4 I explained that it covered in this increased cost the extra bills as paid and charged to grading even though it might involve the movement of yardage, but it was yardage which had not been returned. Now, that would cover work of the kind done on this line.

Q. This line was built through a portion of country where the grading sank to some extent through the muskeg swamps up there?

A. Yes, sir.

Q. And it was necessary to haul in a great amount of work?

A. A good deal of it was taken out of cuts which sloughed in and was hauled out on to the banks.

Q. Now, the amount of excavations for the purpose of obtaining that work could have been measured?

A. Not in the shape it was in; no, sir; at least, it wasn't measured.

Q. Was there any account kept of it? Don't you have any check on that kind of work? Can't it be ascertained in some way?

A. The yardage?

Q. Yes, the yardage that was moved.

A. I think not the yardage, at least we can't find it, and it was made up by the engineer who had charge of it.

Q. Well, under what heading does that kind of work appear on your books, so that you can keep track of it?

A. It appears under grading. That charge is placed under grading, and if there had been yardage the yardage would have been entered.

Q. Isn't there any way whereby the home office can ascertain whether the report of the train service is correct? Have they no check at all on the construction crew that were working at this?

A. In work of that kind it is practically impossible to measure the yardage.

Q. How is it entered on your books—train service?

A. I think there would be some train service and some labor.

Q. Steam shovel work?

A. I think there was a little steam-shovel work used around ditching.

Q. You could tell, could you not, the amount paid for overhaul and the amount paid for transportation, and when that was added to the amount paid contractors, subtracted from the total it would show the amount paid for yardage?

A. I think it could be separated so as to show those different charges; I am quite sure.

Q. Why didn't you do that, in order to get a correct result?

A. That would have extended this exhibit beyond—

Q. It wouldn't necessarily have extended your exhibit at all; you could have entered the total yardage.

A. The yardage was not shown.

Q. But I say you could get at it, couldn't you?

A. Working backwards you mean?

Q. Yes.

A. What use would that be?

Q. Well, it would be dividing your total cost of grading by the correct yardage so as to get the correct average cost; that is, it would give us a correct result instead of an incorrect one.

A. What price would they use for that grading?

Q. I suppose that grading would be worth the same price as other grading of the same kind. The mere fact that you did it under contract wouldn't have made any difference?

A. That is the very reason that a great deal of that work is not paid for under the contract, because it can't be carried out at proper prices.

Q. It certainly can't be carried out and give us a correct result by this method of computation—anything that is reliable?

A. I think it can.

Q. If you divide the total cost as appearing on Ex. 4 in the column headed "Total Charges" by the total yardage as appearing in item 2 of your Ex. 2, it would establish a very different result, wouldn't it?

A. Why, certainly, if you divide by yardage which is not covered by those charges, it would give a different result.

Q. And then when that average cost was for total yardage in your line in Minnesota, it would make a tremendous difference, wouldn't it, in the cost of the line?

A. Yes, but you are getting something incorrect.

Q. Well, at the very worst, it would be substituting one form of an incorrect statement for another because this certainly is not correct?

A. I think it is as nearly correct as can be made for that purpose.

The MASTER: Well, as I understand it, for that division about all you claim is that the total cost of the grading would be $358,535?

WITNESS: That would be the total charges.

Attorney General YOUNG: Yes, on that line in grading.

The MASTER: Yes, for the grading, but so far as the yardage is concerned, or whether it actually cost so much per yard, he can't determine because he hasn't got here the actual number of yards, but assuming it to be so many yards, of course, he gets his result of 33.5 per cent, but if the yardage is correct and he knew what it was it would diminish the cost per yard. But about all he can claim for that is, isn't it, that we have here the total cost of the grading for that division?

WITNESS: Yes, that is correct, but this average cost of the grading is what we go by.

The MASTER: It wouldn't do to permit that to go into general average cost; that is what you object to?

Attorney General YOUNG: Yes, that is what we object to.

The MASTER: I think I understand it.

WITNESS: You undestand, further, that that so-called constant 11.4 cents, has not been used in my prices in Minnesota.

Q. But you have used a larger one?

A. No, sir.

Q. In a good many instances?

A. No, sir; my average is smaller than that.

Q. For instance, the average cost for moving solid rock is given on this Ex. 4; what constant did you use?

A. I didn't use any constant. I placed the prices on according to my judgment.

Q. Well, now, let us go back to item 2 of Ex. 2; at the bottom you have, for instance, the item of that cost of moving solid rock entered at $1.25 per yard for your entire line when the average cost as it appears here from your Ex. 4 was only 95 cents per yard.

A. Yes, sir; and as shown on Ex. 51 it is $1.17.

Q. And your loose rock, as it appears on Ex. 2, is entered at 55 cents, when as a matter of fact, on Ex. 4 your alleged actual average was 40.7 cents?

A. Yes, sir, and on Ex. 51 it is 45.6 cents.

Mr. How: Ex. 51 being the Minnesota statement?

WITNESS: Covering all the Minnesota line.

Q. Well, even as shown in Ex. 51, that is 11 cents more than the actual experience according to Ex. 4?

A. No, sir; you haven't stated that correctly. It is 9.4 cents, the difference would be.

Q. It is 9.4 cents greater than the alleged actual experience as shown by Ex. 4?

A. No, I had reference to Ex. 51.

Q. Well, I know, but it is on Ex. 51 you claimed that the average cost for Minnesota which you have given there is 9.4 cents per yard greater than your alleged actual experience as shown on Ex. 4?

A. No, sir; you haven't stated that right.

Q. Well, excuse me then.

A. At least, I don't understand what—

Q. On your Ex. 51 you give as the average cost, as I understand it—

A. The average price paid contractors.

Q. The average price. This Ex. 51 is only partial, you say?

A. No, Ex. 51 covers all the lines in Minnesota for which we have the prices as paid contractors.

Q. Yes, but it does not cover all your lines in Minnesota?

A. No, sir; it does not. As shown on the sources of grading, Ex. 3, it covers 43 per cent.

Q. Let me ask you, then, what alleged cost did you use in computing the cost of grading in Minnesota? This Ex. 51 covers, you claim some of the lines for which you have vouchers for amounts paid contractors?

A. Covers all of the lines for which we have vouchers as paid contractors, and it covers—

Q. And it covers some of your lines only?

A. Yes, sir; it covers the lines listed on Ex. 3 in the first column under the heading "Quantities for which Contractors were paid on Original Construction," amounting to 43 per cent of the total yardage.

Q. As to the yardage in your lines for which you have no vouchers on record, what multiple of cost did you use—that ascertained from your Ex. 4?

A. No, sir; that is made up from my judgment. The price is placed on the material in each line as shown in Ex. 2, item 2.

Q. And that is the one to which I referred a moment ago. Now, let us understand each other. Ex. 51 covers the average price paid contractors on all lines for which you have vouchers on record within Minnesota?

A. Yes, sir.

Q. And the prices used in your estimate embodied in item 2 of Ex. 2 applies to all lines in Minnesota for which you have no vouchers or record, is that the idea?

A. It covers all; it covers these shown on Ex. 51 as well as all of the rest of the grading.

Q. So that we won't get confused on this matter, when you made your estimate as embodied in item 2 of Ex. 2, you did not limit yourself as to the lines designated on Ex. 51 to the average price paid contractors as shown by Ex. 51, but you computed the average cost of the total yardage both in those lines and in all other lines at what you believed to be the fair price in your judgment?

A. Yes, sir.

Q. And that fair price in your judgment was the price which you said was to some extent deduced from the experience table shown as Ex. 4?

A. No, sir; I didn't say that. I said it was made up as representing my judgment of what the grading would cost on those lines.

Q. How much did you add to the contract price in your estimate which is embodied in item 2 of Ex. 2?

A. I didn't get at it that way. I took each line separately and placed a price on the grading of the different classes of earth, hardpan, loose rock and solid rock which appeared to me to be proper based upon my judgment and knowledge of each particular line.

Q. But the prices which you used were actually higher, were they not, than those which appear in Ex. 51 as the average price paid contractors on the lines for which you have vouchers, and also very much higher than the average prices paid in the instances that are used in Ex. 4 which were used for illustration?

A. They are higher than the prices paid to contractors for the very reason that it is necessary to make that addition to cover the extra items which we have mentioned, the overhaul, the transportation and the extra bills.

Q. What was it that you used, then, as your constant increase over the amount paid contractors?

A. I didn't get at it that way.

Q. Well, in what way did you get at it?

A. I have explained to you I took a price per yard for the different classes of material which in my judgment would cover the full cost of the work, based on my experience.

Q. Is there any line constructed by your Company in Minnesota where the cost was as great as appears in your item 2 of Ex. 2?

A. Do you mean price per yard?

Q. Yes.

The MASTER: As shown by Ex. 4?

Attorney General YOUNG: Item 2 of Ex. 2 is the one that embodies his condensed estimate of cost.

Q. Ex. 4, at best, was only used for illustration; item 2 of Ex. 2 is the one containing the estimate of cost?

A. You mean as paid to contractors?

Q. I will withdraw that question and ask it in another way. Were the prices that you used in making your estimate embodied in item 2 of Ex. 2 based upon the actual experience of your Company in Minnesota?

A. Yes sir, and on my experience in connection with the work.

Q. Well, on which?

A. Both.

Q. To what extent on actual experience and to what extent on your judgment?

A. My judgment was derived from my experience with the various lines.

Q. Well, what is the exhibit, then, shall we consider it actual experience or your opinion simply?

A. Consider it as my judgment based on my experience—which has been almost altogether with the Great Northern Company.

Q. It does not represent what the Company paid for having the work done and which, according to your theory of reproduction, it would be necessary to do over again?

A. It was not primarily made that way, but—

Q. Was it made secondarily that way?

Mr. HOW: Let him finish the answer, please.

WITNESS: —but the examination of our books of the actual cost of the various pieces of work shows that the prices placed were conservative prices.

Q. What instances are you referring to now as corroborative of your figures—those appearing in Ex. 4?

A. As appearing in Ex. 4, yes, sir.

Q. In other words, your theory was corroborated by Ex. 4?

A. It was confirmed by Ex. 4.

Q. Still you say you did not permit yourself to be governed by the results shown by Ex. 4?

A. No, sir, I explained that Ex. 4 was made up a considerable time after item 2 in Ex. 2 was made.

Q. The figures appearing in item 2 of Ex. 2, then, are not items representing what the work actually cost—

A. No, sir.

Q. —but they do represent prices considerably higher than the work actually cost, do they not?

A. No, sir.

Q. What do you mean by your last answer? Do they represent prices that are higher or that are not higher?

A. They represent prices which are closely the same, what the work actually cost.

Q. At the time it was done?

A. Yes, sir, at the time it was done.

Q. Are you able to give us what the construction of the road cost?

A. No, sir, but I have in Ex. 4 given you what those lines built since 1898 cost, and it could be carried back some further. That is, that would cover the charges to grading.

Q. Let us not, then, remain in any uncertainty. Does Ex. 2 represent what the grading actually cost the Company, or does it not?

A. No, sir, it does not necessarily represent what it actually cost the Company.

Q. Why say "not necessarily"? Does it or does it not represent what the grading cost the Company? What do you mean by "not necessarily" in that answer?

A. Because it was not made up to show what it had cost. I have explained that it was made up on the basis of my judgment

as to the prices, the quantities being taken from our records just as far as possible to do it.

Q. Do you claim, Mr. Hogeland, that the prices given approximate the actual average cost of the work at the time it was done?

A. Well, I am not able to say as to that going back into the years previous to what I show in Ex. 4.

Q. You testified as a witness, did you not, in the so-called Steenerson case, tried in this state several years ago? I think it was in 1899.

A. I don't recall testifying in that case.

Q. The record shows that you did. You were connected with the Company at that time, were you not?

A. Yes, sir. What date did you mention?

Q. It was somewhere between 1895 and 1899.

A. Where was it held?

Q. It was tried before Judge Kerr, here in Ramsey county.

Mr. How: It was decided by Judge Kerr September 28, 1895.

WITNESS: I don't recall testifying there.

Q. Did you not make a physical examination of the road at that time for the purpose of testifying, and make a report to Col. Crooks, the engineer of the company, as to for instance the number of buildings, bridges and different items—as to the rails used in the road—

A. I don't recall it; still we may have done it.

Q. Will you refresh your recollection between now and tomorrow morning?

A. Yes, sir, I will do so.

Adjourned until Thursday morning, April 29, 1909.

Federal Building, St. Paul, Minn., Thursday, April 29, 1909, the hearing was resumed at 10 A. M.

A. H. HOGELAND,

recalled for further cross-examination, testified:

By Attorney General YOUNG:

Q. I want to call your attention for a moment to your Ex. 50, so that we may not misunderstand each other. I think you stated yesterday that the items appearing under the heading "Cost Per Tie" constitute the complete cost of the ties to the Company delivered on the right-of-way?

A. It covers the cost delivered at the material yard or whatever point was figured for each line.

Q. That includes the cost of transportation?

A. Yes, sir.

Q. And what else?

A. The cost of the tie to the Company on the right-of-way and peeling, loading and transporting to the material yard for each line.

Q. This is not, then, the market value of the ties as they were purchased in the first place by the Company?

A. No, sir.

Q. And the varying prices given are produced to some extent by the cost of transportation and the distance of the transportation?

A. To some extent, yes, sir.

Q. But you do not claim that this exhibit shows the market value of ties?

A. No, sir.

Q. Could you state, in a general way, about how many ties there are in the portion of your road located in Minnesota, that is, state approximately?

A. About 8,000,000.

Q. In your estimated cost of reproduction haven't you charged the transportation on ties as an additional item?

A. Yes, sir; item 36 covers transportation on ties.

Q. And the transportation of the ties in Minnesota would be about a million dollars, would it not?

A. Yes, sir; we have it shown as $955,941.

Q. In other words, in the items into which your Ex. 2 is divided you have entered ties at their cost not including transportation, and added transportation under another heading to make up the total cost to the Company?

A. Yes, sir.

Q. And in Ex. 50 you have included transportation in the item marked "Cost per Tie"?

A. This Ex. 50 shows the entire cost, including the transportation.

Q. Ex. 50 was intended, as I understand it, to justify the prices which you had used in your Ex. 2 for ties purporting to show your actual experience during these years, was it not?

A. No, sir, it was not introduced for that purpose. It was introduced to show what ties had cost us on different lines and the increasing cost per tie as shown by the statement at the bottom.

Q. Why didn't you enter you ties on Ex. 50 on the same basis that you entered them on Ex. 2, showing simply the market value of the tie and the cost of transportation, separately?

A. I didn't consider it necessary to do so with the proper explanation, that was brought out in the direct examination, that the transportation charges were included.

Q. But the cost of the ties to the Company, as shown by Ex. 50, including the transportation and the peeling and the loading and everything else that went to augment the cost of the tie, are still very much less than the estimated cost of the ties alone, as shown in your Ex. 2?

A. Do you refer to the entire statement Ex. 50?

Q. I refer to the portion of the statement relating to Minnesota construction.

A. Yes, it shows that the ties as shown in that statement are less than we show them in Ex. 2.

Q. That is, what I asked you was, does not Ex. 50 show that the cost of the ties, plus the cost of transportation and plus the cost of peeling and loading, appear to be very much less than the charge that you made for ties alone in your Ex. 2?

A. I don't think you can say very much less.

Q. Well, it is some less?

A. It is probably some less, but you must remember that there are no oak ties, or at least very few oak ties, in Ex. 50, whereas, in the Minnesota lines we actually have a considerable number of oak ties. That brings the average up.

Mr. How: How many?

WITNESS: 1,084,470.

Mr. How: Oak ties in Minnesota?

WITNESS: Yes, sir.

Q. I want to call your attention for a moment to your Ex. 4 and call your attention to the first item appearing there relating to the construction of the line from Cloquet to Boyleston and from Deer River to Fosston. That portion of line is one of the four that are grouped at the bottom of the exhibit as being lines that were constructed in Minnesota?

A. Yes, sir.

Q. How much of the sum appearing under the title "Total Charges" with reference to that line was incurred after the contractor was paid?

A. I think very little of it after the contractor finally left the work.

Q. Is the total yardage given here in this exhibit the total yardage for which the contractor was paid, or is it the total yardage in the line?

A. It is the total yardage for which the contractor was paid.

Q. Have you any knowledge of the additional yardage that was included in the item of Total Charges, aggregating 1,411,645?

A. No, sir, but it was not very great on that line.

Q. There was some additional yardage?

A. Yes, sir; the same as was explained yesterday on the Brookston and Ellis line.

Q. How much would it have to be before you would regard it as "very great," can you give us any idea?

A. I do not believe there was moved on that line, outside of what the contractor was paid for, as covered by these charges, to exceed 25,000 yards.

Q. Well, do you know? Have you made any investigation for the purpose of ascertaining?

A. No, sir; because it is yardage which cannot be measured, as I explained yesterday.

Q. But if, in your best judgment, there were at least 25,000 yards, why was not that amount added to the total yardage before you divided the total cost by the yardage for the purpose of ascertaining the average cost per yard?

A. Because it is yardage that was not measured—could not be measured—and is not included in any other way.

Q. It is included in the total charges, isn't it?

A. Yes, sir, the expense of moving it.

Q. Well, that is another case where you average cost per yard is not correct, is it not, for the reason that you have not used the correct total yardage?

A. Well, what do you mean by my cost per yard?

Q. Your average cost per yard appearing in the last column on Ex. 4 as against that particular line.

A. I claim that those are correct for the purpose for which they were made.

Q. Do you mean then to tell us that the purpose for which they were made did not contemplate correctness in the figures?

A. Yes, sir, and they are correct in that way.

Q. There was $200,000 or more paid out and charged to grading after the contractor was paid on that line, according to your books, was there not?

A. Not that I know, no, sir. I don't think that is true.

Q. On the line that I referred to yesterday appearing upon this exhibit, known as Brookston to Ellis line, there was some sixty odd thousand dollars charged by superintendents on your books—charged to grading—and included in the total of $358,535 that was given as the total charges for grading for that line; what comprised the superintendent's charges?

A. The work of cleaning out slides in cuts where cuts had sloughed in removing that material; and as I explained yesterday, it was material which is impossible to measure on account of its liquid nature. That would represent part of the charge. Part of it would be for picking up the track where it settled over sags.

Q. And filling the sags?

A. Bringing the track up to a grade that could be run over.

Q. And that process of filling the sags, of course, is legitimate grading work, is it not—part of the grading of the road?

A. Yes, sir. The material for picking up those sags had been brought in by the contractors, the bank made wide for that purpose.

Q. What is the difference between the total yardage on those two lines (Cloquet to Boyleston, including Deer River to Fosston, and the Brookston to Ellis line), as they appear in your Ex. 4 and as they appear in item 2 of your Ex. 2, where you undertook to estimate the cost of reproduction?

A. I make it 2,178,856 yards.

Q. Greater in item 2 of Ex. 2 than in Ex. 4?

A. Yes, sir.

Q. Now, then, the total amount charged to grading on your books on both of those lines is $1,770,180?

A. That is correct, yes, sir.

Q. That includes all that appears on your books charged to grading upon those two lines of road?

A. Up to the time the construction account was closed.

Q. That means that that is the total sum paid by the Company out of capital for grading on those lines?

A. I can't tell you whether it was paid out of capital, but it represents the cost of the grading up to the time the construction account was closed.

Q. You have ascertained your alleged average cost per yard for grading by dividing the total charges as they appear on your books for grading at the time the construction account was closed by the yardage only, that appears upon Ex. 4?

A. Yes, sir.

Q. But when you finally make your estimate of the cost of reproduction, you apply the average cost per yard of grading to the greater yardage which appears on item 2 of Ex. 2, do you not?

A. Yes, sir.

Q. In speaking about your estimate of the cost of reproducing the road yesterday, you stated that no account was taken of original structures, such as depots and other structures of that kind, that had been torn down and replaced by larger and better ones, did you not?

A. Yes, sir.

Q. As a matter of fact, Mr. Hogeland, the original structures were the ones that were paid for out of capital account, were they not?

A. I presume so. I cannot tell you just how it was paid for.

Q. And in cases where they have been torn down and better ones erected in their place, in what way was the cost of the construction paid?

A. Out of what account, you mean?

Q. Yes.

A. I can't tell you what account it was paid from.

Q. Well, you know, do you not, that it comes out of the account under the head of Maintenance of Way and Structures?

A. I can tell you the usual method of charging that, but I

can't tell you positively just how it was charged; that would be a part of the accounting department work.

Q. Well, you know, do you not, that it was paid for out of earnings as a part of the maintenance of way and structure account?

A. What was paid?

Q. The cost of the second structure that was erected.

A. No, sir—that is not the usual way of doing it.

Q. To what account is it charged?

A. The increased cost over the original structure is charged to Improvement, and the cost of the original structure is marked off against Maintenance. That is the usual method.

Q. Where does the money come from to pay for improvements?

A. I can't tell you.

Q. What I want to get at is, did the Company pay that or do the public pay it?

A. I can't tell you where the money comes from; I am telling you the usual method of carrying out work of that kind.

Q. You say you don't know how it is ultimately charged?

A. No.

Q. That is the fact?

A. Yes, sir, that is the fact—that I do not know.

Q. I asked you last night, before the hearing closed, whether or not you had not testified in the so-called Steenerson case, which was a proceeding in the courts of the state of Minnesota, involving the regulation of the intrastate rates of the Great Northern road, tried in the year 1895.

A. I find I did testify in that.

Q. Do you remember an exhibit used at that trial, prepared by Mr. D. C. Shepard, of this city, who is the plaintiff in the so-called Northern Pacific case, that is being tried with this, and which was used and designated in that case as Plffs. Ex. G, headed "D. C. Shepard's Estimate of the Cost of Reproducing

the St. Paul, Minneapolis & Manitoba Railway in Minnesota, not including the right-of-way and Terminals in the Cities of St. Paul and Minneapolis"?

A. No, sir, I do not recall that statement.

Q. Do you remember having been asked at that trial, "Have you knowledge, from your observation and experience, of the cost of moving earth in constructing the road and grading"? to which you answered, "Yes, sir, I have"?

A. No, I don't remember any such question, but if it is in the record it must have been asked and answered in the way it shows there.

Q. The record in that case discloses that Ex. G, to which I have just referred, was then shown to you and you were asked whether you had looked at it and you stated that you had looked at it that morning, and you were then asked, "Are the estimates of cost as stated in Ex. G in your judgment reasonable and fair at the present time"? to which you answered that you thought they were. Do you remember anything about that?

A. No, I have no recollection of what took place at the hearing. I don't recall it now.

Q. As a matter of fact, in that exhibit marked G in that case, to which your attention was so called, the cost of the clearing on the right-of-way of the Great Northern road, then called the St. Paul, Minneapolis & Manitoba, was put in at $30 per acre, and you have put it in at $75 per acre?

A. Yes, sir, I think we have. Yes, sir, $75.

Q. Your average cost of grading is put in at I think 32.98 cents?

A. Do you mean to include all material, loose rock, solid rock and everything?

Q. Yes.

A. It is 33.8 cents for all materials.

Q. In the exhibit designated "G," used in the so-called Steenerson case, the average cost of grading is put in at 21.5 cents,

including earth, rock and everything. Which, in your opinion, is nearer correct?

Mr. How: I think that we ought to object to this examination. The Attorney General is stating facts which are not before the Court, and if he wants to put in that exhibit as a basis of the examination, we have no objection.

Attorney General YOUNG: Well, we are going to put it in.

Mr. How: Let's have it in.

Attorney General YOUNG: Do you want to see it now?

Mr. How: I want to see it.

Attorney General YOUNG: All right, look at it.

Mr. How: I want it before me while this examination is going on.

Attorney General YOUNG: We will offer the record—this is a copy of it—when it comes to our side of the case. We are simply cross-examining your witness now.

Mr. How: What I object to is the statement of the Attorney General that certain facts exist and then examining the witness upon the basis of those facts, and it does not appear to anybody that the facts are not erroneous. He has a mere scrap of paper there before him, and I think both the witness (who does not recollect his testimony and says so) and counsel for the complainants ought to be advised.

The MASTER: He is asking his questions upon an assumption. Of course, it will not amount to anything unless, later on, it is followed up by proof that such an exhibit was used and such testimony given.

Mr. How: The form of this question asserts certain things as facts.

The MASTER: He assumes them, of course. The witness on such an assumption could answer, but the Attorney General's statement that such things were so do not make them evidence in this case. I understand you are assuming that to be true?

Attorney General YOUNG: I asked the witness last night

whether he testified in this case. He didn't remember. I told him to refresh his recollection and come in this morning prepared to say. This is a part of the testimony in that case. Now, I am asking him about it. We are going to produce that, and we will stipulate with you, Mr. How, right now, that Ex. G in the Steenerson case go into the record, with the testimony in connection with it or referring to it given by Mr. Hogeland.

Mr. HOW: There is no call for any stipulation at all with regard to the matter. If you want to put it in you can offer it; but what I do object to is the Attorney General stating things as facts which do not appear at all in this record.

The MASTER: Well, he is of course assuming them to be facts and he proposes to follow it up by showing they were facts.

Mr. HOW: I protest that the Master has no right to assume that they were facts.

The MASTER: The objection is noted. Proceed.

Mr. O'BRIEN: I think if the counsel will reflect a moment he must see that in order to introduce Ex. G we must lay a foundation for it. This testimony is laying the foundation for it.

Mr. HOW: I don't object to the testimony, I object to the form of the question. I think it is clear what the objection is.

Q. In Ex. G, used in the Steenerson case, and which you appear to have approved at that time as being correct, tracklaying and surfacing was estimated at $400 per mile. In your estimate Ex. 2 in this case you have estimated it at $835 per mile, have you not?

A. Yes, sir.

Q. Assuming that your testimony was true in the Steenerson case, what is it that has occurred since that justifies the increase of that item from $400 a mile to $835 per mile?

A. Labor conditions are undoubtedly different. The weight of the rail which we have in the railroad today is different from what it was then—which adds to the cost of track laying. There is nothing to indicate, from your question, whether that

covered all train service—in fact, I would have to examine the statement in order to know just what would constitute the difference.

Q. There appears on Ex. G, at the bottom thereof, "Add ten per cent for engineering, legal expenses, superintendence and contingencies," and then there is an interest charge during construction and commission discount of ten per cent more. I have already read to you the heading of the exhibit, which is "D. C. Shepard's Estimate of the Cost of Reproducing the Line," and the particular item to which I have called your attention is entered as "track laying and surfacing." Those are the only things that you can now recall that might increase the cost on track laying and surfacing, are they?

A. Yes, sir, the only things that I recall now.

Q. When Mr. John F. Stevens testified in this case you were present, were you not?

A. Yes, sir.

Q. Do you remember his testifying that labor did not cost any more now than it did fifteen years ago?

A. No, I don't recall that. If he did, it was wrong.

Q. You want to testify that it costs more, do you?

A. Yes, sir, I do.

A. About how much more? That is, in what proportion is the cost of labor increased?

A. Oh, I couldn't give you any percentages.

Q. Well, it has not doubled, has it?

A. No, I wouldn't say it has doubled. The efficiency of labor was probably double then what it is now.

Q. About how much more would it cost per mile to lay the heavier rail that you are now using than it cost to lay the rail that was used in the road in 1895? That is, how much would the cost be increased on account of the increased weight of the rail used?

A. Oh, that would be a very rough figure, it might be a hun-

dred dollars a mile, the increased weight of rail and track fastenings of all kinds.

Q. Have you examined your testimony in the Steenerson case since last night?

A. No, sir; I tried to get hold of it, but was not able to do so.

Q. At that time you were the engineer of maintenance of way, according to your testimony?

A. Yes, sir, that is true.

Q. And you were at that time familiar with the cost of these various things to which you testified?

A. I was.

Q. When you were making up your estimate which is embodied in Ex. 2 in this case, did you refer at all to the estimate that you made at the time of the trial of the Steenerson case?

A. I didn't make that estimate, Mr. Young.

Q. Well, you adopted it as your own after examination, according to your testimony.

A. Yes, but you should not refer to it as my estimate.

Q. Well, I will call it Mr. D. C. Shepard's estimate. By the way, Mr. Shepard was the man who built the road, wasn't he, a large part of it?

A. He built a part of it.

Q. And he was undoubtedly familiar with the cost of reproduction at the time that he gave that testimony in 1895, was he not?

A. He was very familiar with all prices and quantities.

Q. The estimate of the cost of reproduction made in 1895 would not be anywhere near your estimate of the cost of reproduction now, would it?

A. No, sir.

Q. Do you know whether any of the items would be the same?

A. Oh, I don't believe any of the items would be the same, on account of increased mileage and improvements and addi-

tional property purchased; they would bear no resemblance to an estimate made then.

Q. The proportion of the securities that have been issued per mile has greatly increased, too, since then, has it not?

A. That is not in my line of business, I can't tell you.

Q. Do you think the opinions of the officers of the Company as to what their rights are have somewhat changed since then, too?

Mr. HOW: I hope so; they didn't seem to have any under the Steenerson case.

Attorney General YOUNG: They were inexperienced then.

RE-DIRECT EXAMINATION.

By Mr. HOW:

Q. I want to call your attention first, Mr. Hogeland, to the present cost of track laying as estimated by you. Your item No. 10, Ex. 2, shows that you have estimated track laying and surfacing at $835 a mile. As I understand your testimony, your estimate, as shown in item No. 10, of Ex. No. 2, was made prior to the compilation by you of Ex. No. 7?

A. Yes, sir, that is true.

Q. Ex. No. 7 was compiled by you, as I understand it, from the actual cost to your Company of track laying between 1898 and 1908, both years inclusive, and you show that the actual cost to your Company during that period was $904 per mile; is that correct?

A. Yes, sir; that is correct.

Q. And Ex. No. 7 was offered by you merely in corroboration and in justification of your estimate as shown in item 10 of Ex. No. 2?

A. That is true.

Q. That statement Ex. No. 7, and each item contained there, is a statement of actual experience and actual cost to your Company, as shown by the records of your Company in the work indicated upon that exhibit?

A. Yes, sir.

Q. So that whatever the justice and propriety of the estimate claimed to have been made by Mr. Shepard in the Steenerson case, determined in the district court in 1895, Ex. No. 7 shows the actual cost to your Company, during current times, and item No. 10, of Ex. No. 2 is shown, in view of that actual cost, to be a conservative estimate in your judgment?

A. Yes, sir, it is.

Q. And too low, if anything?

A. If anything, too low.

Q. There seems to be a misunderstanding—or failure to understand, perhaps, on the part of some one in the trial, and it has been claimed that I am the only one that misunderstands it—with regard to the extra bills, the extra cost to the Company for grading, over and above the contractor's prices. As I understand it, a contractor is employed to make the railroad right-of-way up to the grade and is paid per cubic yard for what he takes out of a cut or borrows from the sides for the purpose of making an embankment; he is paid on the excavation and not on the fill?

A. Sometimes he is paid for the fill.

Q. Sometimes he is paid for the fill? Well, perhaps it makes no difference.

A. That depends on the haul and the character of the work and the contract which is entered into for doing the work.

Q. When he makes the embankment and the cuts to grade, the yardage is measured and is paid for under the contract. Supposing, thereafter, there comes a settlement and depression in the grade or a washing out of the sides or a sloughing of the cuts, what happens then? It must be fixed of course,—how is it done and how charged?

A. It is charged to grading—very properly—and it is done in whatever way will prove the most economical, and depending, too, on the nature and extent of the trouble. If the contractors

have not left the ground and it can be done under their contract, it would be carried out that way and an additional estimate made. If, however, it is of such a character that it cannot well be done on a yardage basis under the contract, it is done as a force-account proposition. That is, the contractor is told to put on the men and rectify the trouble. He does so and is paid for it the actual cost plus ten per cent.

Q. The ten per cent covering his service?

A. Yes, and for superintendence and use of tools. That becomes then an additional charge to grading. It is true some yards have been moved but the yards have not been returned, partly because they could not be accurately measured and partly because the work could not be carried out under the contract prices, and that is what constitutes one of the extras in that way.

Q. Now, how large a proportion of the extra cost, over and above the contractor's price that you have estimated upon grading, is constituted of this sort of thing—the extra earth moved?

A. Oh, it would be very small, taking all of the lines into consideration. On some of the lines, particularly in the northeastern part of the state, that kind of work is quite considerable.

Q. And why?

A. Because of the nature of the soil. The cuts, after the rains come, slough in very readily, the banks are washed easily by the rain and settlement takes place over the marshes, requiring more of that class of work than where the soil is better, as in other parts of the state.

Q. Is this extra earth that is moved and is not measured and paid for as yardage, included in any other account or any other item in your Ex. 2 as yardage?

A. No, sir, it is not.

Q. Suppose the contractor has left the work and that work is done by the railroad company itself, what difference is there in the result and in the nature of the charge made?

A. It is still a broad charge against grading.

Q. And still included in your accounts as an expense of grading—original construction?

A. Yes, sir, if the line had not been taken over by the operating forces,—after which time it becomes a charge against maintenance.

Q. There seems to be a difference of figures in some of these lines between the yardage shown on Ex. 4 as actually paid for to contractors and that shown in Ex. 2 as estimated to exist. Take No. 2 of Ex. No. 2,—will you explain that difference? In every case I think each shows an excess of yardage claimed by you to exist and necessary to be moved in case of present construction in item 2 over that shown as paid for to contractors in Ex. 4 corrected.

A. Ex. 4 shows the quantities for which contractors were paid and agrees with the first column in Ex. 3, in which is shown the quantities for which contractors were paid on original construction. Item 2 in Ex. 2 includes the quantities on Ex. 4, and in addition to that, whatever has been done in the way of improvement, such as bridge filling, bank widening, grade changes, sidetrack extensions, double tracking, all grading work of improvement, since the time the contractors got through.

Q. What has been your experience with regard to the Great Northern property as to the amount of work and money expended upon right-of-way after the original contractor is off the work?

A. Oh, on some of the lines it has been comparatively small, but on the main line there has been a tremedous amount of work of that kind done.

Q. In your judgment many times far exceeding the original cost, the amount of betterment and improvement?

A. Well, I wouldn't like to say that, but an examination of Ex. 3 will indicate pretty well the amount of grading which has been done since the lines were originally built.

Q. I think you did in your testimony say that the first column of Ex. 4 agreed with the first column of Ex. 3, and they cover entirely different properties?

A. Yes. That should have been qualified by the statement that you would have to pick them out on each particular line in that column.

Q. Will you give us, Mr. Hogeland, a full list of the different items that ordinarily figure under extra bills; that is, the extra cost to the Company over and above the contractors' price in grading?

A. Some of the things that go to make up these extra bills are as follows: Removing slides after grade has been completed. That would apply to either slides in cuts or slides in the embankment. Changing of wagon roads; building tote roads to grading camps; moving fences of farmers; moving telephone lines; building temporary trestles across creeks; making fills; changing channels of creeks and streams that cannot well be done under the contract prices; amount paid for borrow-pit privileges; that does not cover the purchase of land, but where a right is secured to take material from adjacent land where it is needed; repairing grade damaged by floods; amount paid for labor and material corduroying through swampy ground; changing grade of other railroads at crossings; excavating ditches through wet ground,—which is usually paid for as an extra; removing old buildings and refuse such as manure; lowering sewers and water-pipes through towns. That is a partial list of items for which extra bills have been paid in times past in my experience, and all properly chargeable to grading.

Q. And are charged to grading?

A. And are charged to grading.

Q. And whether the contractors do it or whether the railway employes themselves do it?

A. Yes, sir.

Q. When it becomes necessary to dig a ditch, for instance, is

that work measured and paid for as yardage under the contract?

A. Wherever it can be, and that is quite often.

Q. Why cannot it always be?

A. Because very often the material is so wet that no ordinary contract price would cover it and it has to be done on a force-account.

Q. What is your custom with regard to paying for everything that can be paid for as yardage under the contract, everything that can be properly measured up paid for?

A. That is the custom—to measure and pay for all grading work that it is possible or practicable to pay for that way.

Q. Could you make a rough estimate of the proportion of what you included in your estimate as extra cost over the contractors' price that consists of extra earth moved and not measured as yardage?

A. No, sir.

Q. How does it run, in your experience? Does it differ so widely in different lines that—

A. Yes, sir, on very many lines there is nothing of that kind occurs; on other lines, especially in the northeastern part of the state, there is a great deal of it.

Q. Take it right through the state, what is your judgment as to whether the extra earth moved and not measured as yardage constitutes a large proportion of the extra cost which you have estimated over and above contractors' prices.

A. It constitutes a very small part.

Q. A very small proportion of the whole?

A. Yes, sir, I would like to add that I have gone through the various items of overhaul, transportation and extra bills that make up this increased cost over and above what is paid contractors as shown on Ex. 4 and I find that about three cents per yard is due to overhaul, about five cents per yard is due to transportation, and about three cents per yard is due to these extra bills. That represents, roughly, the proportion of the 11 cents that is chargeable to the three classes of additional cost.

Q. And the three cents per yard which you say is composed of extra bills includes all these things that you have enumerated as coming under the charge of extra bills?

A. Yes, sir.

Q. As I understand it, the cost expense of its improvement of widening of embankments, etc., after the contractor is off the work and after the line has been turned over to the operating department, is not charged to the original cost of grading, but is perhaps charged to betterment and improvement account?

A. Yes, sir, it is not charged to original construction, and I understand that it is charged to improvement.

Q. In Ex. 4 corrected is there anything included in Total Charges in either of these items which is not included within the total yardage and which might have been measured and included in yardage and paid for under the contract as such?

A. Not to my knowledge.

Q. What is your practice in that regard?

A. Our practice is to carry out all of the work that it is possible to carry out on the yardage basis and under the contract.

Q. And pay for it as yardage?

A. Pay for it by the yard under the contract.

Q. Let me ask you whether there is anything included in Total Charges and not included in Total Yardage in Ex. 4, or in any of your exhibits, that has been included in yardage in other exhibits—whether there is any duplication of this material?

A. No, sir, there is no duplication of material.

Mr. O'BRIEN: We do not claim there is. It is the duplication of the cost that we are speaking of. We do not claim there is a duplication of the total number of quantities in these exhibits.

By Attorney General YOUNG:

Q. You have just testified, Mr. Hogeland, as to the items constituting the additional cost of grading over amount paid

contractors and have indicated that the expenses are somewhat uncertain in their character. They are somewhat contingent, are they not?

A. They are contingent on the weather, to a certain extent.

Q. You have an item in your estimated cost of reproduction under the head of Contingencies, haven't you?

A. Yes, sir.

Q. That applies to the same subject?

A. No, sir, they would not cover the same classes of work that I cover here, except such as might be due to action of flood.

Q. Haven't you stated, Mr. Hogeland, that your estimate for contingencies was intended to cover all of those things which could not be foreseen at the time that the estimate of cost was made?

A. Yes, sir, and I reduced my amount of contingencies. I omitted it from a great many items, for the very reason that part of these things had been found out in carrying out the work, and in that way it was not proper to put in as much for contingencies as you would if you were starting out on an entirely new proposition.

Q. Does your estimate of contingencies cover any other part of the work except the part that is included in the contingencies that you have enumerated here?

A. Yes, sir; it would cover all items that are due to actions of flood and fire and strikes and accidents that would happen either during the period of original construction or the improvement work that was carried on afterwards.

Q. The contingencies that you have just mentioned here with reference to grading are the things that are most likely to occur, are they not; they are what might be called uncertain?

A. I don't think you would call these contingencies. They are things that cannot be measured and returned to the contractor under the contract. The only item that would approach contingency would be damage which might result from flood.

Q. And from sags or slides?

A. No, I don't call that so much so, I have not claimed that that was a contingency.

Q. Well, it is a contingency in fact, isn't it?

A. Yes, but we have tried, Mr. Young, to put in the quantities which have been used to take out those sags, therefore our contingency item should not cover that.

Q. It should not, but does it not?

A. No, sir; it was not put in for that purpose.

Q. What is there about your records to indicate whether it is included in the contingencies or not?

A. Well, do you refer to our grading records?

Q. Your records or your exhibits which show that these contingencies are not duplicated.

A. In putting in our contingency item 29, Ex. 2, which was to cover the increased cost of the work due to all unforeseen causes, such as fires, floods, tornadoes, accidents, strikes, etc., it was intended to cover those things.

Q. Well, that included all those unforeseen things that may affect the grading?

A. No, sir, it does not include all of them, it includes some.

Q. What I mean is such as slides of either the cuts or fills.

A. No, sir, we haven't put it in to cover slides, it has not been put in for that purpose.

Q. Well, it is entirely within the classification designated under the heading of item 29, is it not?

A. I think not. I read it once, such as fires, floods, tornadoes, accidents, strikes, etc.

Q. From "unforeseen causes"?

A. "Such as."

Q. Well, isn't a slide or a sag—

A. No, sir, Mr. Young, it would not be fair to put in a sag which we have afterwards taken out and measured up the quan-

tities and returned it; and that is the way all of the work which has been done since construction has been returned.

Q. You say it would not be fair to do it—I agree with you.

A. Therefore we have not done it.

Q. Therefore you haven't done it?

A. Yes, sir.

Q. I don't think that "therefore" belong in that answer.

Mr. How: Well, I don't think the witness needs protection, but I protest against that sort of thing.

By Mr. How:

Q. In making an estimate of work, Mr. Hogeland, what is your practice with regard to estimating the cost of grading, do you estimate it upon the contractor's price alone, or do you estimate it upon the cost to the Company as covered by the contractor's price, and the extra cost that we have been talking about?

A. We try to make it so it will cover the full cost.

Q. And having estimated that cost of grading, what is your practice with regard to contingencies?

A. The practice is to add a certain percentage, not always the same, to the entire cost of the work to cover such contingencies.

Q. What has been your experience with regard to the necessity for an estimate of contingencies upon that basis covering the entire cost of grading, including these items that you have been particularly talking about as included within extra cost after the contractor has been paid on the yardage basis, in order that the estimate may cover the actual cost?

A. Why, it is absolutely necessary to put in a certain per centage, and generally we fail to get in enough to cover all the contingencies which do develop—all of the increased items of expense.

Q. I would like to refer for a moment to your Ex. 52-A, which is a statement showing the number of men actually en-

gaged in the construction of the Billings line as compared with the number of men sent to the work. Have you information so that you can tell how many of the men shown by that statement to have been shipped to the work were transported over the Burlington road?

A. Yes sir, the statement which I have before me shows that 4,915 men were shipped to that work over the Chicago, Burlington & Quincy railway.

Q. And do you know whether paid for at full fare?

A. My understanding is that they were.

Q. From what specimen points were they shipped, and some specimen number, from specimen points, at a time?

A. Denver 38; in March, 1907; another in April, 1907, from Denver, 149 men; another in May from Denver, 196 men; also some shipment from Omaha to Sioux City, at which point the Great Northern Company took them, in May, 367; in June, from Omaha to Sioux City, 268; in July, from Kansas City, 121; in August, Kansas City 96; in October, 1907, from Denver, 140.

Q. How many were shipped over the Northern Pacific to the work?

A. There were 4,620 shipped over the Northern Pacific.

Q. From what specimen points, and what numbers from specimen points at various times?

A. Well, generally from St. Paul, St. Cloud, Minneapolis, Helena, Spokane, Butte.

Q. Can you tell generally from what points the largest number appear, according to your records, to have been shipped at various times?

A. A pretty large number was shipped from Helena and Butte; not so many in the earlier part of the work from Spokane. The largest shipments I notice are 106 at one time from Butte, 154 from Helena. The shipments are generally smaller than that from either those points or from other points mentioned.

Attorney General YOUNG: I would like to ask Mr. Hogeland to ascertain whether or not the paper marked "Ex. G" in the so-called Steenerson case, a copy of which I have used in his cross-examination this morning, is correct and is the exhibit which he identified and from which he testified in that case, and to let us know as soon as he can, so that we may use this copy instead of the original. (To the witness): Will you do that?

WITNESS: I think so, yes; at least I will do the best I can to see whether we have a record down there of a similar one or anything. That is all I can do with it, I think. I think likely we have something relating to it, but I could not find it this morning.

Adjourned until Friday morning, April 30, 1909.

Federal Building, St. Paul, Minn., Tuesday, May 4, 1909, the hearing was resumed at 10 o'clock A. M.

FRANK E. WARD,

sworn on behalf of complainants, testified:

By Mr. BUTLER:

Q. Your name is Frank E. Ward?

A. Yes, sir.

Q. And where do you live, Mr. Ward?

A. In Chicago.

Q. And what is your occupation?

A. I am general manager of the Chicago Burlington & Quincy lines east of the Missouri river.

Q. That covers what states?

A. Minnesota, Wisconsin, Illinois, Iowa, Missouri and a very small mileage in Kansas.

Q. How long have you been in the employ of that company?

A. About eighteen months.

Q. Last past?

A. Last past.

Q. And you have been the general manager of the Company during all of that time, I think, Mr. Ward?

A. Yes.

Q. Prior to that time what railroad experience did you have?

A. I had about twenty years of railroad experience all together; four years with the Grand Trunk railway as an apprentice clerk and stenographer, and five years with the Great Northern's predecessor, the St. Paul, Minneapolis & Manitoba, as stenographer and secretary to the president of the Eastern railway of Minnesota, chief clerk to the general manager, and at various times I have held other offices for short periods. I was treasurer, auditor, purchasing agent, and then I became secretary to the president of the Great Northern Railway Company, in 1890, and held that position for about three years, then was

made assistant to the president of the Great Northern Railway, which position I held about three years; then for about a year I was general superintendent of the Montana Central Railway at Great Falls; for four and a half years general superintendent of the Great Northern railway system, and for four and a half years general manager of the Great Northern railway system.

Q. You were general manager of the Great Northern system for four and one-half years next prior to your going to the C. B. & Q.?

A. Yes, sir.

Q. And your headquarters were here at St. Paul?

A. Here at St. Paul.

Q. You are familiar with the lines of that Company?

A. Yes, sir.

Q. And especially with the lines of that Company in the state of Minnesota?

A. Yes, sir.

Q. And had the direction of the operation of those lines during the time you were the general manager of the Company?

A. And while I was general superintendent. While I was general superintendent there was no general manager, so I was at the head of the operating department during those nine years.

Q. So for practically nine years you were the head of the operating department of the Great Northern road, coming down to eighteen months ago?

A. Yes, sir.

Q. And you were familiar and are you still familiar in a general way with the details of operation of the Great Northern road, especially of its lines in Minnesota?

A. I believe so.

Mr. BUTLER: A paper marked Complainant's Ex. 53-Ward

is called to the attention of the witness. It is a statement under caption "Great Northern Railway Company, Statistics for business year ending June 30, 1908," and shows the mileage in the system, main track first, main track second, main track other, total main track owned, sidings, spurs and yard tracks owned, leased tracks, trackage, total tracks in the system. The same with respect to the mileage in the state of Minnesota, a statement of the equipment on the system, a statement showing the average capacity of equipment, box-cars, refrigerators, stock-cars, flat-cars and coal cars, and the average of the steel ore cars and wooden ore cars and the average of all; shows the traffic on the system first as respects freight, tons revenue freight carried, tons revenue freight one mile, freight revenue, tons revenue freight per train mile, tons revenue freight per loaded car mile; and as respects passengers, passengers carried, passengers carried one mile, passenger revenue, average distance carried in miles, and the same information as respects the traffic in the state of Minnesota, freight on the Mesabi division, showing separately the statistics relating to the iron ore traffic on that division, and similar statistics as respects other divisions in Minnesota, excluding the Mesabi division, and similar statistics as respects all divisions in Minnesota, as respects passenger business, gross earnings, passengers local to state, passengers interstate touching Minnesota, passengers carried, local; passengers carried interstate; passengers carried one mile and passengers carried one mile interstate; shows the average haul of passengers within the state of Minnesota, the local 36.8 miles, interstate 133.8 miles; and as respects operating expense, the system, shows first the total gross earnings on the system, the total operating expense on the system, the net earnings on the system; and the same as respects the state and the allocation of it and division between freight and passenger in the state; and shows the amounts allocated respectively to the freight and

passenger business and how subdivided. The figures on this Ex. 53, if your Honor please, are all taken, or at any rate immediately derivable, from the exhibits heretofore introduced as a part of the testimony of the witnesses Parker, Tilton and Martin; the purpose of this exhibit being to arrange upon one paper the information or certain of the information as bearing upon the problem of extra cost of doing the state business.

Q. You have examined this exhibit, Mr. Ward?

A. I have.

Q. And are familiar with the substance of what is shown thereon?

A. Yes.

Q. The total tracks in Minnesota is shown to be 2779.31 miles of which 2056.7 miles is main track first; and main track second and additional tracks 99.81 miles; and sidetracks 623.42 miles. Mr. Ward, can you tell us about what proportion of the trackage "of the line" I think is the expression I will use, of the Great Northern in Minnesota is operated as main line and what proportion operated as branch line?

A. The answer to that question would depend a little upon what definition would be put upon the term main line; but according to my idea and my knowledge of how the Great Northern was operated during my connection with it, I should say that not more than 30 to 35 per cent of that total of 2000 miles of main track would be classed as strictly main line railroad.

Q. And can you refer to the specific parts of the line in Minnesota which you class as main line in that answer?

A. Yes, sir; I should call the line from St. Paul to Breckenridge the main line; the line from Minneapolis to the state line on the road from St. Paul to Duluth, in the neighborhood I think it is, between Foxboro and Dedham; and also the line from East Grand Forks to the state line of Wisconsin near Superior on the direct east and west line going through Cass Lake.

Q. The rest of the line within the state may be considered, from an operating point of view, as branch lines, you think, Mr. Ward?

A. Yes, sir.

Q. Referring to the statistics on Ex. 53, as relates to the freight traffic in Minnesota and the freight traffic touching Minnesota, on page 3 of the statement, I observe that the average length of haul of Minnesota freight is 113.3 miles, and of all interstate freight touching Minnesota the average is 411.8 miles; looking at the top of page 4, the exhibit also shows that a large volume of interstate tonnage moving principally in Minnesota is iron ore, and on the top of page 4 the average total haul of all interstate traffic touching Minnesota excepting iron ore is 557.6 miles. I want to ask you, Mr. Ward, whether or not in your opinion the length of haul of freight as indicated for the state freight and the interstate freight touching Minnesota, eliminating the iron ore, affects the cost per unit of transportation or per ton per mile of doing the business.

A. Yes; it has a very marked effect upon it.

Q. State why that is so.

A. In the first place, the state business having a short haul, of necessity carries with it a much heavier terminal charge per ton per mile, probably, measured by comparing the distance, as 113 is to 557.6, which is the total excluding the iron ore; and the state business, by reason of its short haul, and also in part by reason of the character of the freight handled, is handled largely by way-freight trains; those way-freight trains require in many cases more men than do the main line through freight trains, and the men in the crews receive a higher rate of pay than do the men on the through freight trains. The way-freight trains which carry so large a percentage of the Minnesota state business are of necessity light trains; they are handled by lighter and less economical engines as measured by costs

per ton mile than are the through freight trains, and they carry a smaller percentage of the business; an economic rating of those small engines than is carried by the through freight trains with the much larger and more economic engines. The nature of the business, on account of its short haul, very largely affects the business economies in the handling of the equipment; the average loading per car is of necessity very much lighter and the business use made of the car aside from the light lading while they are in service is very much less. There is a good deal more idle time on the cars because of the time they spend at the loading and unloading points, which of course, by reason of the short haul, are more frequent in occurrence than is the case with the long-haul business. The matter of loss and damage in the handling of the short-haul shipments, particularly less than carload, is quite a serious item. The freight is handled a good many times, and the chances for pilferage and for damage in the handling of the individual packages is great. and the excessive amount of handling of the cars by the engines results in a great deal more damage to the freight considered as carloads. Another element in that particular item is the growing cost of lumber of which the packages are made, and the fact that the shippers have resorted to the use of very frail packages, made of paper in many cases, not strong enough to safely carry the commodities which are enclosed within them, and are very much more easily damaged and pilfered very much more easily, more easily damaged by other freight falling upon them, and it is harder to load the cars as heavily now as it used to be by reason of the frailty of those packages. The amount of property furnished by the railway for the handling of the state short-haul business is relatively very much greater than it is in the case of long-haul business. The station facilities at local stations all through the state are, when measured by the ton mile, used to a very much greater extent than is the case for the through business passing those stations. On branch

lines, which compose a very large proportion of the mileage of the Great Northern in Minnesota, the trains are of necessity light for another reason than the fact that the contents of the cars is small; the fact that those trains have to start from one end of a branch or another light, picking up, means that over a very considerable portion of those branches the power is not used to its maximum efficiency; or it may be worked in the reverse direction: If the train starts out loaded it reaches its destination with a very much lighter load than the engine is capable of, resulting in a higher cost per ton per mile for the freight that is handled. The damage to equipment is a very important feature in the handling of short-haul business; particularly that business which is handled on way-freight trains. Equipment is not damaged very frequently when it runs from one terminal to another in through freight trains; the damage which it receives is to a very large extent in the switching at terminals and on the road; and, in the case of a way-freight train making stops at every station and doing more or less switching at every one of those stations, the chances for damage and the actual damage is multiplied very considerably. The risk of personal injury is likewise multiplied for the same cause. The men are obliged to cut cars and handle brakes and be actively engaged in the handling of the moving equipment to a very much larger extent on those trains than they are on through trains which run on from terminal to terminal without breaking the train. Of course, it follows, from what I have said, that the handling of those trains with light tonnage means the use of a great many more trainmen to handle a given number of ton miles. The ideal condition, from an operating man's point of view, is one where you can use the largest and most economical engines on your trains and load that engine every time she goes out with her full rated capacity; and just to the extent to which you are unable to do that you increase your expense by reason of the necessity for running additional train

miles, for the unit of expense per train mile, particularly in wages, is fairly constant with the exception of the way-freight trains which have additional men and for which additional rates are paid; it costs just as much to run a light train as a heavy one, in the matter of wages of the crew; and pretty closely so in the matter of fuel consumption and engine service. And the handling of state business or other short-haul business is the condition most removed from that ideal condition of operation, and therefore the most expensive. The establishment of intermediate distributing centers, like Fergus Falls, St. Cloud, Crookston, East Grand Forks and Moorhead, has tended also to increase the expense in handling state business.

Q. By that you refer to these jobbing centers specified by the Commission in its orders between which distributing rates have been established?

A. Yes, sir; that works out so that the local dealer will be solicited for his business by more people, and his business will be distributed in different centers, so that the opportunities for loading a car, for instance, from St. Paul or Minneapolis under the old plan, when those were the only distributing centers, does not exist to the same extent because the freight received by the business men at the smaller towns is purchased from not only those big centers but the smaller centers, and in the efforts of the railway company to exercise economies in the handling of its equipment, it is obliged in many cases to have not only two terminal and station expenses in the handling of that state freight, but in some cases three or four, by reason of the necessity for consolidating those shipments at junction points in a way to avoid the further unnecessary use of car miles. I might illustrate that by citing a possible case, at a station like Greenbush. A merchant at Greenbush would purchase goods perhaps at Crookston and other classes of goods at East Grand Forks, and others again at St. Paul; possibly he would buy other of his goods at Fargo or Moorhead and others

again at Duluth. Now, under the old arrangement under which the distributing rates were made only from the larger centers, he would probably buy all of his stuff in St. Paul and Minneapolis, and that car and its contents could go directly to destination; but under the present method under which his purchases are distributed between different centers, his freight from St. Paul and Minneapolis will go up to Redlands intact; other of it will move from Moorhead to Redlands; the Crookston freight will be moved over to Redlands, and there all consolidated, and the equipment is delayed and the warehouse expense and clerical expense of arranging that stuff is incurred a second time. That might happen in a great many places, and does happen.

Q. I wanted to speak more particularly of the terminal service rendered in the state on the state business (that is, the intrastate Minnesota business) as compared with the interstate business, and first let us look at some items we will say of less than carload interstate freight originating we will say at Chicago or in the east coming to the Great Northern in Minnesota for delivery to some station in Minnesota; how does the terminal service on such a shipment on the line of the Great Northern, in Minnesota, compare with a state shipment of like freight originating in Minnesota and moving wholly within and terminating within the state?

A. In such a case the terminal expense at the delivering end would be the same, at the point to which delivered to the consignee would be the same, but at the originating point there would be a less expense. You spoke of a less than carload shipment, did you not?

Q. Yes.

A. A less than carload shipment in such a case would undoubtedly come in a car of a foreign line to the Minnesota Transfer, which has facilities for handling the exchange of business between all of the lines that enter that point, and the

expense there would be divided between the receiving and the outgoing line, and in no case would it exceed one-half of the expense that would be attached to a shipment originating in St. Paul or Minneapolis.

Q. That is, for example, suppose a package of freight destined to St. Cloud, freight from Chicago destined to St. Cloud would come or might come by the C. B. & Q. to the Minnesota Transfer and there be delivered to the Great Northern for transportation to St. Cloud, there to be delivered to the consignee; now, the delivery at St. Cloud would be the same in the interstate shipment as if it originated in St. Paul?

A. Yes.

Q. Now, the terminal service rendered by the men and property of the Great Northern road at Minnesota Transfer would be about half what it would be if the shipment originated at St. Paul or Minneapolis from a jobbing house here?

A. Yes, sir; not to exceed one-half.

Q. The total expense at the Transfer would be divided between the Great Northern and the C. B. & Q., or the road carrying it in; is that the idea?

A. Yes.

Q. And how divided? Divided share and share alike?

A. Yes, it is measured by tons, and the tons would be counted against both roads.

Q. Now, if such an interstate shipment from Chicago to the Minnesota Transfer was destined to a point in Dakota or west of Minnesota, the only terminal service then to be rendered in Minnesota would be the terminal service at Minnesota Transfer?

A. Yes, sir.

Q. Now, as respects a carload shipment interstate from Chicago via Minnesota Transfer to some point in Minnesota on the line of the Great Northern, I would like to have you compare the terminal services rendered by the men and property

of the Great Northern on such a shipment as compared with an intrastate shipment originating at Twin Cities, we will say, and destined to the same point in Minnesota.

A. The comparison would be much the same except that the cost per ton on account of it being a carload would be less; the road bringing it to the Twin Cities would deliver it at the Minnesota Transfer, and the tonnage in the car would be counted against the road bringing it in and against the Great Northern Railway taking it out, and the terminal expense attaching to that car would be simply the switching necessary to take it from the assigned delivery track in the Minnesota Transfer to the train yard of the Great Northern Railway. In the case of a car originating in St. Paul or Minneapolis, if it originated on a team track, or on a private industry track, it would have to be switched by the Great Northern Railway Company from that point in the first place to the Minnesota Transfer up the hill (which is expensive) and into its train yard, and it would have to bear in that case the whole expense instead of a part, and that whole would be considerably greater than twice the half of the other expense, for the reason that the Great Northern would have to perform the entire service from the actual point of loading to the train yard.

Q. In other words, it is cheaper for the Great Northern to get a car out of the Minnesota Transfer over its line than it would be from either St. Paul or Minneapolis?

A. I should not say so from Minneapolis, but it would be from St. Paul.

Q. Would be from St. Paul?

A. Yes.

Q. And would it be as cheap from the Transfer as from Minneapolis?

A. Hardly, no. There would be some additional distance and some additional expense.

Q. And in case such car was destined to a point on the line

of the Great Northern beyond Minnesota, west of Minnesota in North or South Dakota, the only terminal service to be rendered would be that at the Transfer?

A. That would be the Great Northern's share of that transfer expense.

Q. Now, it is stated on the last page of this exhibit, page 6, that it is estimated that of the interstate freight touching the state of Minnesota from 14 to 17 per cent of the ton miles made within the state are made by freight passing entirely across the state, without receiving any terminal service within it, nor any yard service within it, except what is involved in breaking and making up trains in divisional yards.

Mr. O'BRIEN: We desire to make a special objection to that portion of the exhibit on the ground that it is not the statement of the witness and nobody knows who makes this estimate.

Mr. BUTLER: Well, Mr. O'Brien, most all of the information on this exhibit —I think perhaps this point is not covered— is contained in the exhibits Parker, Tilton and Martin, and those witnesses will be available to you for cross-examination on the matters that they are responsible for respectively, and we expect to introduce evidence on this point later on. For the purpose of taking Mr. Ward's opinion upon the assumption, he, of course, is not testifying to the verity of that statement.

Mr. O'BRIEN: Well, I think under the circumstances we will have to let our objection stand as to this.

Mr. BUTLER: Yes, that is all right.

Mr. O'BRIEN: We object to the entire exhibit at this time on the ground that it is not shown to have been prepared by the witness and especially as to this part of it.

Mr. BUTLER: Well, we will offer the exhibit in evidence.

Mr. O'BRIEN: We object to it as incompetent, irrelevant and immaterial, and no sufficient foundation laid for this exhibit.

Mr. BUTLER: We expect to follow it with sufficient proof.

The MASTER: Objection noted. I understand you that all these figures are really taken from prior exhibits, substantially?

Mr. BUTLER: Substantially; or derivable from them.

The MASTER: I don't know whether you ought to throw on the defendants the labor of hunting that up.

Mr. BUTLER: Well, we can check them out right from the exhibits. There were two courses open to our use, the mass of exhibits, or draw off these items.

The MASTER: If this is simply a digest of previous exhibits, that simplifies matters.

Mr. BUTLER: Insofar as it is not, we will supply the proof.

Q. Do you know, Mr. Ward, whether or not, in point of fact, there is certain interstate business touching Minnesota which passes clear across the state?

A. Yes, I do; there is a good deal of that.

Q. Can you give us some illustration of some traffic of that class?

A. I would suggest as of that class the coal business loaded in Superior and destined to Dakota points, of which there is a very considerable volume, and wheat business going the other way.

Q. That is, the grain business from Dakota to Superior and the coal business from Superior to Dakota?

A. Those are the two large items which occur to me now.

Q. Now, I would like to have you compare the terminal service rendered by the Great Northern in Minnesota on such shipments as compared with like terminal service on similar shipments which are intrastate in Minnesota.

A. Well, in the first instance, the trans-state business, there is no terminal expense except the transportation expense at engine terminals of changing the engines and cabooses of the trains to which this freight is attached; and in the case of the intrastate business there is the terminal expense at both ends

of assembling the business from the loading tracks and placing it in train yards, and at the delivery point of taking it from the train yards to the unloading tracks, and also the clerical expense of billing.

Q. Now that there may be a clear understanding as to what is referred to as terminal expenses, would that include any switching at any divisional points where trains are rearranged or made up; is that called by you in your testimony a terminal service, or is that designated in some other way?

A. No, I have not had that in mind as a terminal expense. That is a transportation expense incident to the movement of the business from place to place and not connected with the terminal expense of assembling it and getting it ready to become part of a train; and on the other end of taking it out of the train and placing it where it can be unloaded and of unloading it in case of less than carload.

Q. That is, the terminal expenses which you refer to has to do with the receipt of the property in the beginning by the carrier—

A. Yes.

Q. Either from a shipper or a connecting carrier?

A. Yes.

Q. And at the other end it is providing for its delivery to the consignee either by unloading the car in case of carload lots, or in case of carload lots of setting the car where it may be unloaded by the owner of the property carried?

A. Yes.

Q. And switching intermediate between those two events is incident to the transportation and is not regarded as a terminal service?

A. No.

Q. Now, excepting ore, the average haul of interstate business touching Minnesota is about five times the average haul of the Minnesota intrastate business. On the basis of ton miles

of one class compared with the other, what in your opinion would be the relation of quantity of terminal service per unit?

A. The terminal service per unit, using the figures you have named as a basis, would be not less than five times as great in the case of the state business as in the case of the interstate. You speak of terminal only?

Q. Terminal only.

A. I should say five times would be approximately the relation that one would bear to the other.

Q. Well, if you assume the same amount of car capacity for interstate as for state and assume that there is equal terminal service on the interstate in Minnesota to the state in Minnesota, the single fact that the average haul of one is five times as great as the average haul of the other, would indicate that the terminal service to the unit of the state business would be on the average five times as great as the unit of the interstate business?

A. Yes.

Mr. O'BRIEN: That is objected to as leading. I desire to interpose an objection to that question as leading and ask that the answer be stricken out.

The MASTER: Objection noted.

Q. Now, what is the fact in regard to car capacity and equality of terminal service per unit of one as compared with per unit of the other?

A. I am not sure that I understand that question.

Q. Well, as a rule is the same weight on the average to be found in the state's business averaging a haul of 113 miles as there is in the interstate business touching Minnesota, averaging a haul of 537 miles?

Mr. O'BRIEN: That is objected to as leading.

The MASTER: Objection noted.

A. The average loading would be considerably less in the case of the state shipment.

Q. What effect, if any, would that have upon the comparative terminal service per ton mile of each?

A. It would very considerably increase the cost per ton mile for station service, by reason of a greater relative use of the facilities.

Q. By station service do you mean terminal service?

A. I mean terminal station service, yes.

Q. Now, you have pointed out that in certain of the interstate business there is less terminal service than there is in the state business, per ton per package or per car; what effect, if any, would that fact have upon the comparative terminal service of the state and interstate business?

A. It would all tend to increase the relative cost of the state business?

Q. You spoke of the damage to equipment as being greater in the state business than in the interstate business touching Minnesota; will you illustrate and make as clear as you are able to why that is so?

A. It is in the first place because the short-haul state business being handled in local trains is in cars which are more frequently coupled on to and handled by the engines, the chances for injury occur very much more frequently in the case of this short-haul state business than in the case of long haul which goes long distances without being touched or without the train stopping, and it is not in the running of the cars but in their stopping and starting and the coupling and uncoupling of them that injuries to equipment occur to a very large extent.

Q. During the time you were general manager of the Great Northern road, or at any other time with which you are familiar, were accounts kept which showed or purported to show the cost of doing intrastate business separately from the cost of doing the other, either in the freight business or in the passenger business?

A. I never knew of any, no.

Q. Are you familiar with any accounts of that kind upon any road, do you know any road—

A. I have never seen any such, no.

Q. Have you yourself given special attention to the subject of the cost of the short-haul business as compared with the long-haul business?

A. Why, in a general way I have. I have, of course, been riding around and observing conditions for a good many years, and have noted the conditions affecting the different classes of business which have been handled on the roads that I have been connected with, and in that way have formed an opinion as to the relative costs of business done under different conditions.

Q. Now, I would like to have you state what in your opinion is the relation of cost for doing the business in the freight business of the Great Northern road between the intrastate business having an average haul of 113.3 miles and the interstate business touching Minnesota (excepting iron ore) having an average haul of 557.6 miles.

A. I haven't got any means for mathematically determining what that relation is, but from my observation and experience it is my judgment that the cost is somewhere from four to six times as great for the strictly state business as compared with the interstate and trans-state business.

Q. And when you say the interstate and trans-state business, do you refer to the interstate business touching Minnesota excepting the iron ore which is stated on Ex. 53 to have an average haul of 557.6 miles?

A. I do.

Q. Were you familiar while you were general manager, and are you still, with the passenger train operation of the Great Northern road?

A. I was familiar with it while I was connected with the road, and my present familiarity is very general, of course; I know in a general way the conditions.

Q. On the whole system and especially in Minnesota?

A. Yes.

Q. Ex. 53 indicates that the average haul of passengers within the state of Minnesota local to the state was 36.8 miles, and interstate touching Minnesota within Minnesota 133.8 miles. I would like to have your opinion what the relation in cost per passenger per mile of the state business is compared with the interstate business referred to in my question.

A. In my opinion the local state passenger business is carried on at a greater expense per passenger per mile than is the long-haul interstate business. The difference between the two is not so great as it is in freight business, but it is greater for several reasons; one is that a considerably larger amount of equipment is needed in the handling of the local trains; that is, less continuously in service; the local trains run very largely in the day time only; they do not run on Sunday; the through trains run continuously night and day, and the cars in them are loaded with passengers both night and day and on Sundays, and are earning money all of the time. The cars in the through trains are at both ends assembled in yards where the facilities are on such a scale that the unit of cost is low as compared with the necessity in the case of local trains of taking care of equipment at outlying points where special employes have to be provided, special facilities for heating equipment during cold weather, housing of engines which handle those passenger trains; and in addition to that there is the clerical service needed in the sale of local tickets at all of the local stations, which is required very much more for the local than for the interstate business, and the services of ticket agents and others handling tickets are more properly measured by the number of tickets they sell than by length of the passage covered by the ticket; it is practically as easy to sell a ticket for a thousand miles as for ten miles, and the relation between the two is very adverse to the local business; the cost is greater per unit in my opinion,

and I should say that it would be not less than fifty per cent greater per passenger per mile in the case of the state over the interstate business. There is one other thing I might say in that connection, and that is where local passenger trains are handled over heavy main lines, the indirect expense attached to delays to freight trains is something that is not easily measured, but is very considerable in quantity and has a bearing on my opinion as to the added expense of handling the state passengers.

Q. Perhaps you had better define a little more closely the indirect expense that you refer to.

A. That indirect expense comes from delay to other trains in transit, the passenger train being a first-class train has the right of track over all freight trains, and the expense of stopping heavy freight trains, sidetracking them, paying overtime in many cases, and the wear and tear on equipment and tracks constitutes an indirect expense of considerable magniture.

Recess until 2 P. M.

AFTERNOON SESSION.

F. E. WARD,

recalled for cross-examination, testified:

By Attorney General YOUNG:

Q. As I understood your testimony this morning, Mr. Ward, you did not assume to vouch for the accuracy of the figures appearing on Ex. 53.

A. No, I did not.

Q. Ex. 53 was claimed, I believe, to be made up from exhibits heretofore introduced and to be, to some extent, a condensation of those figures and a rearrangement of them?

A. So I understood, yes.

Q. This exhibit was not made up by you or under your direction?

A. No, sir.

Q. Do you know by whom it was made?

A. I do not.

Q. While it was used, then, as a part of your testimony, it is not in fact your exhibit?

A. No, not my personal exhibit.

Q. Will you give the operating divisions on the Great Northern Railway in Minnesota and beyond the state used in its transportation business?

A. You mean in detail?

Q. Well, just name them generally; we don't care about the exact mileage.

A. By operating divisions do you mean the engine divisions?

Q. The engine runs, I suppose.

A. Well, St. Paul to Willmar, Willmar to Breckenridge, Willmar to Garrettson, South Dakota; Willmar to Sandstone, St. Paul to Melrose, Melrose to Barnesville, Breckenridge to Grand Forks, Barnesville to Grand Forks, Barnesville to Redlands, Breckenridge to Redlands, Redlands to Noyes, Redlands to Cass Lake, Cass Lake to Superior, Redlands to Warroad, Cass Lake to Park Rapids, Park Rapids to Melrose, St. Paul to Sandstone, St. Paul to Superior, Elk River to Milaca, Fergus Falls to Pelican Rapids, Evansville to Aberdeen, South Dakota, Minneapolis to St. Cloud. That is all I think of now. There are some runs on the Missabe district, Swan River to Virginia.

The MASTER: Are those engine divisions?

WITNESS: Yes, sir; those are the termini between which trains run, at which they start and end.

Q. What is the next division west of Grand Forks or Redlands?

A. The nearest one is Larimore, although the trains from Minnesota as a rule run beyond that to Devils Lake. Some trains terminate in Larimore, some in Devils Lake.

Q. And your entire line to the coast is divided similarly into

what might, for convenience, be called operating divisions?

A. Yes, sir.

Q. What would properly be called through trains and what local trains in your freight business?

A. I should call a through train one that was made up at any one of these terminals and ran through practically without break in tonnage to another one or beyond that.

Q. Another one or beyond?

A. Or beyond to another one; that is, in each case terminating at one or another of those engine runs.

Q. In other words, a train starting at St. Paul and running to Willmar without practical change is a through train?

A. Yes, sir.

Q. There the cars composing that train are, if the business carried by it requires it, rearranged; for instance, if there is merchandise or other traffic carried on that train which is to be distributed somewhere between Willmar and Breckenridge, such a car would be dropped off at Willmar?

A. Yes, sir.

Q. And only the cars would be carried on that train to Breckenridge which were destined to Breckenridge or beyond?

A. Yes, sir.

Q. And the same would be true in each instance, the business carried on your through trains is intended to be that which is carried practically without break between engine divisions or operating divisions?

A. Yes.

Q. In these through trains which run from the station known as a division over that entire division to the terminal thereof, there is included both intrastate and interstate business, is there not?

A. Such may be the case, yes.

Q. And in making up your trains to be hauled over a division, no distinction is made between intrastate and interstate

business provided that it all is intended to be carried over that entire division?

A. No, there is no distinction made for the reason that it is state or interstate.

Q. And if you start out with a car of merchandise, for instance, which goes from St. Paul to some point beyond Willmar and this side of Breckenridge, it would be hauled to Willmar on a through train and carried from there to its destination on the other division on a local train?

A. Yes, sir.

Q. And that would be true without regard to whether it was intrastate business or interstate business?

A. Yes, sir.

Q. And that is really the distinction is it not, Mr. Ward, between what is known as through business and local business?

A. Well, that is the distinction in part, but there is quite a distinction between different kinds of through business. Now, business that extends entirely over the limits of one of those operating divisions is through business of one kind and business which would extend over two or three or four or five or ten of the others would be business of another kind; and from the operating standpoint the business which has the longest haul is the most desirable and the most economically handled.

Q. Yes, we will get to that. For instance, business destined to a point at or beyond Devils Lake would be carried on your trains first over the division from St. Paul to Willmar, and there a new engine and way-car would be attached and such changes made in the train as the traffic would justify, and the business intended for Devils Lake or beyond would then be carried through to the end of the Breckenridge division, there a new rearrangement would take place so far as leaving off cars of freight that were to be distributed between Breckenridge and the next division, and the cars intended to go at least as far as Devils Lake would be carried through on that train to that point?

A. Yes.

Q. And if they were to be distributed between Devils Lake and the next division west, they would be dropped at Devils Lake and the train would go on with whatever business was intended for points beyond?

A. Yes, sir.

Q. Practically all of your business except that intended for the coast is through business as to a part of its haul and local business as to a part of its haul, is it not?

A. I wouldn't put it quite so strongly as saying practically all, but there is a considerable portion of it of which that is true.

Q. And to the extent that it is hauled over either one or more entire division it is classed as through business?

A. Yes, sir.

Q. And to the extent that it is hauled from the end of that division to the point of its destination, it is local business?

A. It is local business in the sense that we have discussed it here, yes.

Q. What proportion of your freight business (and by "your" I mean the freight business of the Great Northern Railway,) is strictly intrastate to Minnesota?

A. I don't know that I could answer that question exactly. I think the exhibit has some figures on that.

Q. About five per cent, isn't it? By that I mean business beginning and ending in the state. I don't care about the exact proportion; just give an approximation if you can.

A. These figures as shown here show a much larger percentage than that. They show practically forty per cent.

Q. Well, you don't think for a minute, do you,—

A. Tons one mile in Minnesota, if I have the right place, two billion—

Q. Have you any knowledge of that subject outside of this exhibit?

A. Excuse me, perhaps I misunderstood your question. You

said intrastate business?

Q. Yes.

A. I was looking at the interstate business touching Minnesota.

Mr. O'BRIEN: Look on page 2, the tons of revenue freight, under "Traffic on System."

WITNESS: Forty million?

Mr. O'BRIEN: Yes.

A. You are speaking of revenue, are you, when you ask the question, or tons one mile?

Q. No, I don't care about the tons one mile, I am speaking about the revenue freight moved.

A. Now, as to the revenue I would have to refer you to the exhibit or to some other witness, because the revenue part of it I am not familiar with.

Q. This exhibit shows that your total freight revenue during the year ending June 30, 1908, on the entire system was $40,319,341.

A. Yes, that is about five per cent as shown by this exhibit.

Q. That would leave ninety-five per cent of your freight revenue to be derived from interstate business?

A. Yes, sir.

Mr. BUTLER: Well, there would be local in other states, General.

Attorney General YOUNG: Yes, I understand.

Q. In speaking about the expense of handling your interstate business this morning in which you designated it as the long-haul business, you took only into account, as I remember your testimony, the expense of moving through trains already made up composed of business destined for interstate points requiring a long haul. As a matter of fact, your interstate business does not come to you in trainload lots, does it?

A. I think you misunderstood my testimony, because I intended to refer to all of the expenses incident to the transaction

of that long-haul business and not merely to the transportation of it after being made up.

Q. Well, now, if you start out a train from St. Paul destined to Devils Lake, assuming that to be one of your runs, that would be composed of business that was to run over the Willmar division, the Breckenridge division and the division extending from Breckenridge to Devils Lake?

A. Yes, sir.

Q. At each one of those divisions there might, and probably would be, several changes in that train in the way of dropping off certain of the freight at Willmar that was destined for points between Willmar and Breckenridge, dropping off at Breckenridge such portions as might be destined for points between Breckenridge and Devils Lake, and also taking on at those points any traffic that might be intended for a destination at Devils Lake or beyond?

A. Well, that might be possible, but as a matter of fact in making up trains to go to a distant terminal like Devils Lake, the freight is made to assemble in the original terminal before starting that train, all of the freight or enough freight to make a solid trainload for Devils Lake or beyond, so as to avoid just the thing you speak of—the breaking up of the train at intermediate terminals; and as far as possible that is done.

Q. As far as possible that is done, and sometimes it is done, isn't it? But how about your experience in practice; isn't it a part of your ordinary economy in handling freight to handle it in the manner which I outlined?

A. No, if that should be the case, in a large majority of the trains that are run and there actually was enough freight to make up solid trainloads that would not require that handling, it would be to that extent defective operation, and of course we try to avoid that.

Q. In that case you would run, say, one train through and you would run another so-called through train in such a man-

ner as to drop off cars at points where they had reached the farthest haul for through train work and take on cars at those stations that were intended to be carried for at least over one division?

A. Yes, sir.

Q. In both cases they would be called through trains?

A. Yes, as to that particular division.

Q. And it would be actually through business, would it not?

A. It would be that kind of through business, yes.

Q. Well, it would be through business in the true sense?

A. Well,—

Q. Well, there is only one kind of through business, is there?

A. No—as I tried to state, there are varying degrees and kinds of through business: business to Seattle or Everett or Spokane is through business and so is business going only across the limits of one engine run, but they are different in degree.

Q. There is difference in degree only because thy run over more than one division in one case and only one in the other?

A. Yes, and the longer one is, by reason of its freedom from terminal expense, the cheaper one; the greater the distance the cheaper the cost per ton per mile.

Q. Now, while you are on the subject will you kindly tell me just what you mean by terminal expenses?

A. Well, terminal expenses, as applied to the loading and unloading of freight, includes the cost of warehousing, clerical work, checking, the switching of the cars into trains and the general work of getting that business together in shape to make up a train and prepare it for the road. It includes all the physical and clerical work that comprises that operation, and that is a main terminal expense. Now, an intermediate terminal expense would be one embodying the expense of taking cars out of trains and putting others in at the intermediate terminals.

Q. Let us take, for illustration, the preparation of a train at St. Paul for transmission over at least one division of your line, where would you get your freight?

A. Well, we would get some of it from our freight houses, some of it from connecting lines, some of it would come from industries and team tracks that are located at different parts of the city; that would all be rounded up by switch engines and assembled in train yards, switched into proper station order and checked and made ready for the road.

Q. Where would it be assembled?

A. In the case of a train going from St. Paul, in the yard at Como. As a matter of fact, I might explain, that in the operation of the Great Northern at these Twin Cities, there are not very many trains with full tonnage leaving St. Paul, they get their full tonnage at Minnesota Transfer and at Minneapolis and the train does not become, as a rule, a full tonnage train until after it leaves Minneapolis, as we treat these two cities as in effect one terminal and assemble everything in Minneapolis. The train crew actually runs from St. Paul, but the train is not complete until it passes Minneapolis.

Q. So far as carload freight is concerned, that is loaded by the shipper, isn't it?

A. As a rule it is, yes.

Q. And it is also unloaded by the shipper?

A. Yes, sir.

Q. The only freight that you have any warehousing in connection with is the less than carload shipments?

A. Yes, that is practically true. I might say, however, in connection with that, that there is some expense in transferring, we do transfer carloads at our own expense.

Q. Just what connection has the business at the Minnesota Transfer with the preparation of your trains starting from St. Paul or Minneapolis, what proportion of the business is assembled at the Minnesota Transfer?

A. Do you mean what proportion of it will originate at Minnesota Transfer?

Q. What proportion of it do you receive there?

A. Oh, of the west-bound business I should judge, counting carload and less than carload, that there might be fifty per cent.

Q. There is at least fifty per cent received at the Minnesota Transfer?

A. I should say approximately fifty per cent.

Q. And that comprises business brought in there from other states and deposited in a warehouse by the train that brought it in, so as to be transferred from that warehouse to your trains when they are ready to be made up?

A. Yes, sir.

Q. And there are also large industries at Minnesota Transfer, are there not, storage and forwarding companies, that handle a very large amount of the business that your Company carries West?

A. Not so very much westbound. The industries at Minnesota Transfer, I think, handle more eastbound than westbound, so far as the Great Northern is concerned, and a very large tonnage of freight that is handled through the Minnesota Transfer is carload tonnage which is not taken out of cars but which the railways put through the Minnesota Transfer as an economical means of handling this exchange business.

Q. Well, in what way is it put through the Minnesota Transfer?

A. A westbound car is taken to the Minnesota Transfer tracks by the road bringing it from the East and it is there taken out by the railroad running west. In some cases the Minnesota Transfer switching engines do not have to handle those cars at all, in other cases they do. In some cases they are handled directly by the road engines of the two roads.

Q. And when they are handled by the road engines of the two roads, are the expenses included in the so-called terminal charges?

A. Yes.

Q. How are they disposed of when they are handled by the Transfer engines?

A. All of the tonnage passing through these terminals is counted, both for the road which brings the tonnage in and for the road which takes it out, and the total expense of the Minnesota Transfer is apportioned among the roads that are members of that company in the proportion that their tonnage bears to the total.

Q. And that is the only expense to any company doing business at the Minnesota Transfer for the service of the Transfer facilities?

A. Yes, that expense ,so far as the roads are concerned is a general and not a specific expense.

Q. Now, then, when you spoke this morning about the terminal expenses at the Transfer being divided between the road which brings in freight and your road when it is destined to be forwarded on your road, what did you mean?

A. I meant that in the operation of counting that tonnage in and out and the assignment of that proportion of the cost to the two roads, the expense is as a matter of fact divided equally between the two roads, between the receiving and the delivering railroad.

Q. That is, the delivering railroad pays a proportion of the expense of maintaining the Minnesota Transfer at the end of the year when its total tonnage is ascertained, and the forwarding road pays its proportion of the expense of maintaining the Minnesota Transfer at the end of the year when its outfreight tonnage is ascertained?

A. Those settlements are made monthly.

Q. But, as a matter of fact, so far as your road is concerned, you receive the freight at the Minnesota Transfer, do you not, in substantially the same manner and under the same circumstances as freight which originated there or was delivered there by local shippers?

A. I will say yes, originating at Minnesota Transfer, yes.

Q. What proportion of your business out of St. Paul originates—you said fifty per cent I think?

A. Approximately fifty per cent in my judgment.

Q. In other words, if a carload of freight is brought in to the Minnesota Transfer, a part of which is to be forwarded over your road and a part of which is to be forwarded over the Milwaukee and a part over the Northern Pacific, it would be unloaded by the car which brings it in and placed in that particular section or part of the general warehouses there which belong to your road, so far as it was to be forwarded on your road, and the part belonging to be forwarded by the Northern Pacific to be placed in its compartments, and so on, with the other roads?

A. Not quite that way; it would be taken out of the car which brought it in, and the Minnesota Transfer employes would put it into the car of the railroad which is to take it out.

Q. Does that always happen?

A. Practically always, yes.

Q. But suppose your car wasn't there ready to be loaded?

A. Well, the cars are there. The railways furnish the Minnesota Transfer with cars, and they help themselves to the cars passing through so as to always have plenty of cars to take care of the Transfer stuff.

Q. Well, it is loaded into your cars there at the Minnesota Transfer in the same way that it is loaded into your cars on the loading tracks and you find it in the car then ready to be hauled out?

A. Yes, sir.

Q. As a matter of fact, there is no ascertainment with reference to any particular shipment of the total terminal charge and an apportionment of that charge between the road which brought the freight in and your company?

A. Except that, ton for ton, it is equal because the expense

is divided in the proportion that the tons each road has counted against it bears to the total number of tons handled by the Transfer.

Q. How does the terminal charge incurred by your road at the Minnesota Transfer compare with its terminal expenses for freight that does not originate at the Minnesota Transfer but originates in St. Paul or Minneapolis?

A. Why, basing it on the cost per ton as nearly as we know how, it is very much less if handled through the Minnesota Transfer.

Q. Do you know how much less?

A. Oh, I don't know exactly, no.

Q. Would you be able to give us any information definite in its character as to the proportion of interstate business and intrastate business carried on your local trains, say between St. Paul and Willmar?

A. I don't think I could, no.

Q. Could you as between St. Paul and Breckenridge?

A. No.

Q. Which, in your opinion, preponderates, the interstate business on the local trains, or the intrastate business?

A. In my opinion the intrastate.

Q. But you have no definite information on that subject?

A. I have not; no, sir.

Q. It could have been ascertained, couldn't it?

A. I think so, possibly.

Q. When you speak in your testimony about the greater cost of business done on local trains than the cost to the Company of business done on through trains, you do not want to be understood then as testifying that all of the expense of the business done on local trains is intrastate expense?

A. No, but I bore in mind the fact that a very large proportion of the business handled on those local trains is intrastate business.

Q. Yes, undoubtedly a considerable proportion of it is, but so far as the business carried on on those local trains is intrastate business that additional expense which arises out of transportation on local trains should have been charged to the intrastate business, should it not?

A. If I understand the question correctly, I would say yes, and that was the intent of my testimony this morning that it should be charged to the intrastate business.

Q. When you give us an opinion as to the relatively higher cost of transportation on local trains, as compared with so-called through trains, you do not intend to give us, then, any criteria from which we can ascertain the cost of intrastate business, so-called?

A. No, I don't know how any such data could be prepared, and my evidence this morning was intended to give my opinion based upon observation during the years in which I have handled this operating work.

Q. But as a matter of fact all merchandise coming to the Minnesota Transfer from Chicago and from other places in less than carload lots and intended for delivery at some point within this state, is carried on your local trains to the point of destination?

A. It is carried on local trains at least part of the way.

Q. Yes, it is carried on local trains, I should have said, if intended for distribution at a point less distant than Willmar.

A. Yes.

Q. And if it was intended for a point beyond Willmar, to be carried on a through train to that point, that is, if it was intended for a point beyond Willmar and this side of Breckenridge, it would be carried on a through train to Willmar and on a local train from Willmar to the point of its destination?

A. Yes, sir.

Q. Just the same as carload freight?

A. Yes, sir.

Q. Well, there is a very large proportion of the traffic of your road devoted to the transportation within this state of merchandise brought into the state from outside, isn't there?

A. It may be originally brought into the state from the outside, but by far the bulk of the merchandise is, so far as we know it, in operating the road, stuff that originates in St. Paul and Minneapolis.

Q. Referring again to the case of merchandise brought in from Chicago, for instance; that would be delivered to you at the Minnesota Transfer, wouldn't it?

A. Yes, sir.

Q. It would be taken from the car in which it was brought in if it was less than carload shipment, and placed into cars and forwarded from there; and on that merchandise intended for delivery at points within this state you get full local rates, don't you?

A. I don't know.

Q. You don't know?

A. No, sir.

Q. Suppose, for example, a shipment from Chicago was intended for Litchfield; Litchfield is on your line and on no other, isn't it?

A. Yes, sir.

Q. That shipment would have to go from the Minnesota Transfer over your line to Litchfield; now, don't you know that your Company gets full local rates on that shipment from the Transfer to Litchfield?

A. I do not; no, sir.

Q. And that regardless of the through rate from Chicago to Litchfield?

A. I don't know.

Q. Now, let us refer for a moment to your interstate business which does not originate in these cities, and let me ask you in that connection if you can tell what proportion of your

strictly interstate business originates in St. Paul, Minneapolis or Duluth?

A. I don't believe I could tell you that.

Q. There is a considerable amount, isn't there?

A. There is a considerable amount; yes, sir.

Q. Now, let us suppose that an interstate shipment west originated at Litchfield—

A. An interstate shipment?

Q. Yes, going to some point in Dakota; where would you get it? What I mean is where would that become a part of a through train?

A. Probably at Willmar. It would be received in our warehouse at Litchfield, put into a local train, carried to Willmar, and there loaded into a through car.

Q. And that is the practice with reference to the acquisition of interstate business which does not originate at the large terminals?

A. As nearly as it can be followed, yes.

Q. Now, then, getting hold of that interstate shipment at Litchfield and the transportation of it to Willmar, would be done by a local train?

A. Yes.

Q. And the expense of receiving and handling that shipment until it reached Willmar would be charged to what you would call your local traffic?

A. Yes, sir.

Q. Now, in your estimating the cost of the transportation of interstate business, are those items of cost which consist of the accumulation of your interstate business at your divisional points taken into account and charged to the interstate business?

A. They are taken into account in my estimate of the relative cost of handling the two. I don't think there is any specific charge in the accounts by which you could put your finger on

it and say that is where it is, but in making my mental estimate and in expressing my opinion as to the relative costs I had that in mind.

Q. Well, if you don't keep a book account of it so as to charge it specifically to the interstate business, how are you going to divide it in your mind?

A. Just by general observation of the way the business runs. As a matter of fact, that class of business is a very small proportion of the interstate business that is handled by the Great Northern.

Q. It would be a very large proportion, would it not, of the eastbound business from various points on your line, all of which is classed as local business? Take for instance, shipments originating in Dakota intended for St. Paul, Minneapolis and Duluth; they would be acquired by your Company and be converted from local business into through business in the same manner as the shipment which we supposed might originate at Litchfield?

A. Yes, the eastbound business of Minnesota is peculiar in this respect: that in Dakota there is a very large mileage on the Great Northern, a very productive wheat country, and the grain raised in that country is brought in and reaches terminals and becomes part of through trains before it reaches Minnesota, and is carried straight through, under the most economical possible conditions, whether it goes to the head of the lakes or whether it comes to Minneapolis.

Q. There are a great many shipments originating in Minnesota intended for Chicago, Kansas City and other places, especially cattle, aren't there?

A. Yes, cattle shipments go to Chicago principally.

Q. And speaking about wheat, to which you have just referred, the same thing is true, is it not, about the wheat raised in the Red River valley and shipped over your road to Duluth or to Minneapolis?

A. Yes, to the extent that it is hauled that way, although the haul is shorter, you understand.

Q. It is hauled from the various points of origination to the nearest divisional point on local trains?

A. Yes, sir.

Q. And placed in a suitable position on your sidetracks to be taken up by your through train and carried on to its destination?

A. Yes, sir.

Q. And no book account is kept of the expense of that operation?

A. No, sir; not that I know of.

Q. But all of the expense incurred by a local train in all that business which it does is charged, is it not, in the books to that local train?

A. Yes.

Q. So that so far as your books are concerned all of that expense would appear in the gross item of expense of local train work?

A. Yes; you understand I don't mean by saying local train work state train work, because there is no distinction as between state and interstate in keeping account of the expense of a local train.

Q. Nearly all of your shipments, as I stated at the outset, that are interstate for a portion of their haul, become local, do they not, before you are through with them, in being hauled from the last divisional point to their point of destination?

A. If their destination is between terminal points, yes.

Q. Well, there is no particular consentration of commerce at your divisional points?

A. No, except that St. Paul and Minneapolis and junction points, at those terminals with other lines at which business is delivered to go farther.

Mr. BUTLER: Duluth is mentioned as one of the large points.

WITNESS: Yes.

Q. I am speaking of after you leave the terminals and go west. There is no particular distinction between towns that are divisional points and towns that are not, in the volume of business that they do?

A. Nothing very marked, no.

Q. So that in proportion to their population, there is just as much merchandise and just as much commerce distributed to points between your divisional stations as at your divisional stations?

A. Yes, in proportion to their population.

Q. So that really the bulk of your business is delivered at stations other than your divisional points, is it not?

A. I think so, in the aggregate, yes.

Q. And for that reason the bulk of your business becomes at some point during its haul local; after it has reached the divisional point on your road nearest to its destination it ceases to be through freight and then becomes local?

A. Yes; that is, business which has a terminus at a local point.

Q. And that is true whether it be a carload lot or less than a carload lot?

A. Yes, sir.

Q. Now, you do keep accounts, do you not, with your various divisions, so that you can ascertain with some degree of intelligence the cost of operating your line upon any particular division?

A. Yes.

Q. But that account is not kept with reference to intrastate business and interstate business, but is kept solely with reference to divisional business, whether it be intrastate or interstate?

A. That is correct.

Q. And what you testified this morning with reference to

the omission in your accounting system of the information which would enable you to give the actual cost of your interstate business and your intrastate business arises from the fact, does it not, that your divisions are not made with reference to state lines?

A. That is one reason.

Q. But they are made with reference to convenience of operation?

A. Yes.

Q. If divisions were made with reference to state lines, it would not be a difficult problem to tell the cost of intrastate and interstate business?

A. I think it would.

Q. I am not suggesting that divisions ought to be made that way, because I understand that would be practically impossible; you must make your divisions with reference to the convenient and economical distance which an engine can run?

A. That is one of the factors in the case; yes, sir.

Q. It would be wholly misleading, would it not, Mr. Ward, to assume that if you ascertained the cost of doing business on so-called local trains and the cost of doing business on so-called through trains you have any guide from which you could form any opinion as to the relative cost of strictly intrastate and strictly interstate business?

A. That would only be one part of the problem.

Q. Would it be any intelligent part of it, inasmuch as interstate and intrastate business are so inextricably intermingled on the two kinds of trains?

A. It would be an important feature, but there are so many different factors bearing upon the problem that you could not use that wisely as a guide to the solution of the whole problem.

Q. A very large part of your intrastate business in Minnesota runs over at least one division, does it not?

A. Well, I presume a good deal of it does, although the

average haul seems to be only 113 miles, which is but very little over the average engine division.

Q. That is, the average haul on way-freight trains?

A. No, on all state business, as stated in this exhibit.

Q. On all state business, both intrastate and interstate?

A. No, state business in Minnesota only.

Q. Exclusively intrastate business in Minnesota?

A. Exclusively intrastate, 113.3 miles.

Q. If you don't run trains carrying exclusively intrastate business, how do you get at it?

A. I don't understand you.

Q. You don't run any trains that are carrying exclusively intrastate business, do you?

A. The record from which this exhibit was made was not made from a record of train miles, but by an examination of the billing, and that will show very clearly the tonnage handled, state or interstate, and the points between which it moved.

Q. And having that data, what do you then do to get at this average?

A. Of course, I didn't prepare this, but the way it would be made would be to get the total tons and the total ton miles, and you would get the average ton miles.

Q. In speaking about the expense of through trains as compared with the expense of operating local trains, will you give us your opinion as to whether or not the maximum of economy in a haul is not reached at the end of one engine run?

A. In my opinion it is not.

Q. Why?

A. Because the maximum economy would be reached when you are figuring on the cost on one railroad like the Great Northern if that freight moved over the entire length of the line, and as you reduce the length of that haul you increase the cost per ton per mile of each unit in that train.

Q. Well, you state that, but I ask you why.

A. Because your terminal expenses are divised into so many more ton miles.

Q. The only element, then, that enters into the proposition is the terminal expense, is it?

A. After you have carried it beyond the division terminal, yes.

Q. Now, what is the terminal expense at the place of delivery?

A. Speaking of a carload lot, the breaking up of the train and the switching of that car to the point at which it is to be unloaded, whether it is on a team track or on a private spur; and, in the case of less than carload, the movement of the car to the warehouse and the unloading of the freight into the warehouse and the checking of it out and collecting the charges; the use of the property in either case.

Q. In the case of a carload shipment, the car is simply delivered on your sidetrack at a convenient place for unloading and the consignee unloads it?

A. Yes.

Q. So that there is no expense to your Company except that of setting the car out?

A. Well, there is the expense of checking the contents out so as to insure the knowledge that the freight in the car is as per the bill and the collection of the charges and use of the property on which the car stands.

Q. Well, the use of the property is covered, is it not, by the general income of the road? You don't have to take into account the use of the property on every car that you unload?

A. Why, that is one of the elements that goes to make up the cost of handling each ton.

Q. But the use of the property is not computed on the number of tons that are loaded or unloaded, the same sum would be a reasonable income on the investment, whether you carried one car or ten to a particular station, wouldn't it?

A. I don't know that I follow you on that.

Q. You don't compute your income by the number of cars you deliver at particular stations; you compute your income on the investment?

A. Do you mean the income on the value of the property?

Q. Yes, you compute a certain amount which you think is a fair income on the property.

A. I think you are getting into questions that I can't answer from my own knowledge. I simply speak of them as items which go to make up the total cost and unquestionably they are.

Q. Let me call your attention to the fact that all these costs you refer to are costs of operating expenses of the road; are they not?

A. Yes.

Q. And all those operating expenses are paid out of the general earnings of the road?

A. I presume so.

Q. And the amount which the company claims the right to earn as an income on its investment is a sum in excess of the operating expenses?

A. Well, I can't answer that.

Q. Well, you do know that so far as operating expenses are concerned, they do not include any profit to the road presumably?

A. No, the expense does not include a profit, of course.

Q. Well, you don't have to account for these station expenses on every shipment?

A. You do in the average.

Q. Those are the things which go to make up the operating expenses, of course?

A. Yes, sir.

Q. But you don't want to be understood, do you, Mr. Ward, as saying that if you haul a so-called through train, a consider-

able portion of the cars in which are intended for Breckenridge, to Willmar and you there find there are two or three or even five cars awaiting transportation to Breckenridge, and you annex those cars to that train, it costs any more to haul those cars from Willmar to Breckenridge because you got them at Willmar than it would if you had gotten them at St. Paul?

A. The actual haul will not make any difference, no sir.

Q. So that for all practical purposes you have reached the maximum of economy when you reach the end of one division?

A. No, I don't agree with you there.

Q. You have said, a moment ago, that outside of terminal expenses that are incurred in the delivery of the freight that would be true; now, is there anything else?

A. Well, there is that, and of course, the expense of putting those cars into the train at Willmar in the instance you cited; those are all factors which go to make one case different from the other.

Q. That is a part of the station expense at Willmar and a part of the general operating expense of the road?

A. Yes, sir.

Q. You couldn't tell definitely just what the expense was at any station, that is, what the terminal expense was?

A. You mean as applied to any individual shipment?

Q. Yes.

A. No, sir.

Q. Is there anything charged up to the station at Willmar for taking on the cars in the case that I referred to for an illustration?

A. Why, there is a charge against the yard service for the division to which Willmar belongs, for all of the expense connected with the switching operations at that point.

Q. And the switching of those cars into the train would be a part of the general switching expense at that station?

A. Yes, sir.

Q. The same thing that I have referred to would be true, whether the freight originating at Willmar was in less than carload lots?

A. What do you mean by the "same thing" that you refer to?

Q. That is, it would be added to the train and hauled from Willmar to Breckenridge, provided it was intended for Breckenridge or a point beyond, at no greater expense per ton mile than the merchandise that you had hauled from St. Paul to Willmar and then forwarded from Willmar to Breckenridge?

A. That might or might not be the case. It would depend on whether there was room to put that in any car and make it part of a carload, or whether it was necessary to provide a car for the small lot going from Willmar to Breckenridge. In that case the expense would be greater.

Q. As a matter of fact, you would not forward it if you didn't have room in the car or didn't have enough to fill another car, would you?

A. Oh, they would forward it anyway; you would provide a car if necessary.

Q. Wasn't it the policy of your road while you were with it to only operate the trains when filled to their maximum capacity?

A. No, sir.

Q. It was not?

A. No, sir.

Q. You always took whatever offered?

A. Yes, sir.

Q. And transported it?

A. Yes, sir; within the bounds of reason.

Q. But "within the bounds of reason" meant that the volume of traffic offered must be substantially a carload?

A. No, sir.

Q. What part of a carload would it have to be before it

would come within the bounds of reason?

A. The term "within the bounds of reason" doesn't apply to the size of the load in the car, but to the reasonableness of the service offered to the community, and it would be taken if it were only ten pounds if a reasonable service required that it be taken.

Q. Well, what do you mean by if a reasonable service required that it be taken? Just give us an explanation.

A. Well, on almost every line, I think without exception on every line, there is a daily except Sunday, local service, or there was, and in that case that shipment would be taken every day; if it came to Willmar after the local had gone for that day it would go the next day.

Q. And the local would run if there was business enough to justify it?

A. No, sir; it would run every day.

Q. If your statement made this morning, Mr. Ward, were to be taken as true, that the expense to the Company of the operation of a local train over any particular portion of your road was four to six times the expense of the operation of a through train over that particular portion of your road, is there anything in that statement which would enable us to form any opinion as to the relative cost of handling intrastate and interstate business?

A. In the first place, I think you misunderstood me. I didn't say that the cost of running a local train was four to six times the cost of running a through train.

Q. What did you say?

A. I think what I said was that the cost of handling intrastate business per ton mile was in my opinion four to six times the cost of handling interstate business per ton mile.

Q. Well, now, on what did you base that statement?

A. On my general observation of the way business is handled, has been handled during the years in which I have handled

the operating department.

Q. Did you ever keep any account so as to find out in fact what the relative cost was?

A. No, because I don't believe such a thing is practicable to a mathematical certainty.

Q. Assuming that it is not practicable to a mathematical certainty, isn't it susceptible of ascertainment to what might be called a definite approximation?

A. I hardly think so. I have never been able to figure out a definite way of determining that.

Q. There isn't a definite way either of dividing the cost of service between freight and passenger, is there?

A. No.

Q. It isn't exactly and mathematically correct?

A. No.

Q. And yet that division can be made with reasonable certainty and with sufficient certainty to justify anybody in forming an opinion upon it, can't it?

A. I wouldn't care to express myself on that.

Q. Could not the same process of cost accounting be applied to the intrastate and interstate business so as to ascertain an approximation of the relative cost near enough to enable an intelligent man to form an opinion upon it?

A. I don't know how it could be done.

Q. If it can't be done mathematically, how can you form an opinion upon it?

A. Simply through years of observation of the conditions under which this business and all of the business has been handled.

Q. What do you base your observation upon if there is no basis upon which your computation can be made?

A. Well, it is purely a basis of opinion and observation. I know a number of the elements, as I have stated, I think, in my testimony, which go to make up a considerably higher cost

for the state than for the interstate business, and adding those all together—they are approximations and opinion, it is true—but the net result of consideration of those facts leads me to the opinion which I expressed this morning.

Q. In other words, you can reach an opinion in your mind, but you could not reach an opinion on paper; is that what you want us to understand?

A. Well, put it on paper, if you like, but that is the opinion as to the particular mental process; I don't know that I could explain it in very exact detail.

Q. Mr. Ward, as a matter of fact, there is a distinction and a division (that is, a dividing line) between the cost of intrastate business so-called, and interstate business. Now, do you want to testify that in any line of industry a fact which exists with reference to the production of the units of production of an industry cannot be ascertained by a system of cost accounting?

A. I think in a great many cases it can be done, but—

Q. And in cases where it cannot be done with mathematical certainty, it can always be done, can it not, with very reliable nearness?

A. I wouldn't like to say that that is so or is not so.

Q. Do you know of anything in the railroad business which enables one man who has served for ten years, say, in the railroad service to have the same opinions about the business as another man who has served ten years?

A. Why, I don't know that they need necessarily have the same opinions, but I imagine their views will not be so very far apart if they have served in the same line of work.

Q. Suppose, for instance, that I had served in the railroad business as many years as you have, and we started out to form an opinion upon a matter as to which neither of us had any figures and as to which neither of us ever undertook to make figures, do you know of any reason why the conclusion that I

would reach would be the same as the conclusion that you would reach?

A. Why, if your experience and mine had been along parallel lines, the chances are that we would reach them possibly by different methods, but I think we would reach conclusions not so very far apart.

Q. Don't you think we would be a good deal more likely to come near together if we had each kept accounts?

A. Yes, if that were possible.

Q. Why, are you so sure that it isn't possible when you never tried it?

A. I am not so sure; I am expressing only my opinion.

Q. You were here yesterday, were you not, when Mr. Elliott testified?

A. Yes, sir.

Q. I think at the risk of repetition I will ask you the same question substantially that was asked him: Isn't it true that it is greatly to the advantage of railway companies to prevent if they can the public from ascertaining the cost of the service with reference to the intrastate and interstate business?

A. I don't know that that is so.

Q. You do know, do you not, that in the division of jurisdiction between the federal and state authorities the state by the federal constitution is given jurisdiction over intrastate business and the federal government given jurisdiction over the interstate business, and that each jurisdiction has a right to prevent the collection by a railway company of unreasonable rates in the traffic under its jurisdiction?

A. I think I know that, yes.

Q. Well, don't you think it is absolutely necessary in order that the federal jurisdiction may exercise its powers intelligently and the state jurisdiction exercise its powers intelligently also, that the business of a railroad should be so carried on and its accounting system so adjusted as to enable those charg-

ed with the duty of fixing maximum rates to ascertain the cost of the service in the business under their jurisdiction?

A. I think that would be very desirable, and I would be very happy if I could solve the problem.

Q. If a system of that kind were attempted by railroads and were established, the problem of rate-regulation would be a very simple one, would it not?

A. I imagine it would.

Q. And assuming that public authorities do not desire to make unreasonable rates, having no object in doing so, there would be very little likelihood of controversies in court over the rate question, if that information were furnished?

A. I think that is true.

Q. On the other hand, if the question of the cost of intrastate business with reference to the interstate business is always to remain solely within the mind of men engaged in the railroad business, and who according to your testimony and to that of Mr. Elliott, would have to serve a great many years in order to be qualified to form an opinion, it is always going to remain an impossible problem, isn't it, for public authorities to fix rates?

A. It is going to be a difficult problem, I should say, yes.

Q. And in order to get the information upon which rates should be based, they will have to go to the officials of the railway company to get it, and the best that the officials can furnish them upon this branch of the controversy will be their opinions?

A. So far as I can now foresee it.

Q. Assuming that the ordinary degree of conscientiousness exists in the minds and make-up of railroad men, do you think they would be very likely to furnish the public with reliable information on that subject, if they are the sole custodians of it?

A. Why, I would prefer not to express an opinion on that.

Q. As I understand your testimony, Mr. Ward, you have no

definite data from which you form your opinion as to the relative cost even of the operation of local trains and through trains?

A. No, I haven't any at hand.

Q. According to the tables which you handed in here, and which you say you assume no responsibility for, the fact would appear from a cursory examination that you are doing your business in Minnesota at a very low profit; or perhaps if this data were to be taken as true, it might appear that you were doing some of it at a loss; is that true?

A. Yes, sir.

Q. And the profit that you make in Minnesota, a net profit of about $8,000,000 annually, would be made on your interstate business?

A. In that case; yes, sir.

Q. Did you ever stop to figure out how much profit per mile you were making here in Minnesota?

A. I don't know that I have actually put pen and pencil together and figured it, although I have had the general conditions in mind.

Q. It would be something like $4,000 per mile, wouldn't it?

A. It would; yes, sir.

Q. If you applied that profit of $4,000 per mile to your entire system, how much would your net earnings be? You have about 8,000 miles, haven't you?

A. No, about six thousand.

Q. Well, six thousand.

Mr. O'BRIEN: 6,600 main track.

Mr. BUTLER: 6,687, I think.

Q. You would be making on your system over $25,000,000 net, wouldn't you?

A. Yes, sir; on those figures.

Q. As a matter of fact you are not making that much?

A. No, I think not.

Q. That would indicate, wouldn't it, that your average

profit per mile in Minnesota was greater than the average profit per mile on the system?

A. Well, the net earnings per mile would be by reason of the fact that Minnesota is at the end of the line and gets the benefit of the interstate haul.

Q. The computation that I have called attention to would exceed by $10.000.000 the earnings of your system, according to your reports; in other words, it would be perhaps about 65 per cent greater than your actual earnings, that is, if your average earnings in Minnesota were applied to your entire system, your total earnings would be about 65 per cent higher than they are?

A. Perhaps so.

Q. Well, if your road in Minnesota is being confiscated, what is happening the rest of it?

A. I am not prepared to answer that question.

Q. You are fighting a reduction of your interstate rates in another room in this building, or were a few days ago,—demanding a raise, I should have said.

Mr. HOLDEN: Well, that is only as to one interstate rate. General; that is lumber.

Q. You are endeavoring to raise the rate on lumber. As a matter of fact, the entire system of the Great Northern is a pretty profitable undertaking, isn't it?

A. It has been; yes, sir.

Q. There are not very many indications of confiscation in its total earnings or in its net earnings, as a system?

A. Not that I know of.

By Mr. O'BRIEN:

Q. Almost the last suggestion that was made, Mr. Ward, with reference to the complaint made in which the Great Northern road, and I think the Burlington road has joined, as to the lumber rates between here and the coast, the case that is now being tried before a Master in this city, do you know the case to which I refer?

A. Why, I have read of it in the newspapers, but I am not at all acquainted with any of these rate discussions.

Q. Well, you know that the rate on lumber, one class of lumber, at least, is 4½ mills per ton per mile from the coast to St. Paul?

A. I really don't believe I know that. I may have read it, but I—

Mr. O'BRIEN: That is the fact, isn't it, Mr. Holden?

Mr. HOLDEN: The fir lumber rate from the coast points to St. Paul is 45 cents per hundred. If the average haul is 2,000 miles, it comes in the vicinity of 4½ mills. That rate, we claim, is so low that it is not a respectable companion in polite society with any other rate.

Mr. O'BRIEN: I am very much obliged, Mr. Holden.

Q. It is true, Mr. Ward, is it not, that lumber transportation from the coast to the Twin Cities, a distance of 2,000 miles, comes within the class of interstate freight that can be transported at a very low cost?

A. Yes, sir.

Q. So that one would naturally expect to find the lowest rate upon freight of that character?

A. I don't know whether I can commit myself to that proposition.

Q. Well, you would expect to find a very low rate?

A. Yes, a low rate.

Q. Far below the average rate upon all freight?

A. Yes, I see no harm in admitting that.

Q. Now, you have just said to General Young that the Minnesota intrastate freight is handled at a loss by your road—by the Great Northern road?

A. I don't think I said that.

Q. Did you not say that itwas handled practically at a loss?

A. I think if Mr. Hillman will read the question and answer you will get it better than if I undertake to repeat it from

memory. I don't think I said that.

Q. Do you think that it is handled at a loss in your opinion?

A. No, sir.

Q. If, as a matter of fact, the cost of handling it is six times as great as the cost of handling interstate freight in Minnesota, is it not certain that it is handled at a loss?

A. Yes; yes.

Q. Is it not certain that if the cost of handling intrastate freight is four times as great as that of the interstate freight, that it must be handled at least without any profit?

A. Yes.

Q. Consequently, under the spread which you give, from four to six times, you are prepared to say that the Minnesota intrastate freight is handled for no profit?

A. That is my opinion, yes.

Q. This table Ex. 53-Ward, shows that the passenger business, both interstate and state in Minnesota, is transacted at a loss of something exceeding $29,000, does it not?

Mr. BUTLER: How do you get at that?

Mr. O'BRIEN: If you will take your total passenger expenses on page 4, $3,670,058, and deduct from that your total passenger earnings shown at the top of page 4, consisting of two items, which must be added together, producing—

WITNESS: $29,430.55.

Q. Therefore, the entire net earnings in Minnesota, as shown upon page 4 are received by the Great Northern road, come from the carriage of interstate freight?

A. That would be the natural deduction from the figures you have quoted; yes, sir.

Q. And those net earnings amount to $8,464,493.40; is that right?

A. Yes, sir.

Q. Now, your total revenue received from freight earnings

interstate in the state of Minnesota, as shown on page 3, under all divisions in Minnesota, amounts to $13,292,302.05?

A. Yes.

Q. Now, will you please deduct the net earnings from the total revenue on interstate business, and let me know what is the cost of transacting the interstate business in the state of Minnesota?

Mr. BUTLER: Well, that wouldn't give it, would it?

Mr. O'BRIEN: Yes, if all of the net earnings come from the operation of interstate business, as he says they do.

Mr. BUTLER: Well, on that assumption, yes.

A. The difference between those two figures is $4,827,808.65.

Q. We also find upon page 3 that the tons moved one mile of interstate traffic in Minnesota, were 1,952,426,967?

A. Yes.

Q. Now, will you please state what the cost per ton per mile is for interstate business in Minnesota on those figures?

A. 24.7 mills.

Q. Don't you mean 2.47 mills?

A. Yes.

Q. Two mills and forty-seven one-hundredths of a mill?

A. Yes, sir.

Q. That is practically two and one-half mills per ton per mile?

A. Yes.

Q. Are you prepared to say that in your opinion the average cost for handling interstate freight in the state of Minnesota is no more than two and one-half mills per ton per mile?

A. No, I am not.

Q. Well, you must either revise this table or this multiple of four to six in order to avoid that conclusion, must you not?

A. Why, I don't follow you just yet, no.

Q. Well, now, I will repeat the formula to you: You have earned net in Minnesota $8,464,493.40?

A. Yes.

Q. None of those net earnings have come from the transportation of intrastate freight, because you say at least there has been no profit in that business?

A. Yes, following that assumption.

Q. The table upon which you base your statements shows an actual loss in passenger business of $29,000?

A. Yes, sir.

Q. Therefore your entire net earnings have been derived from the transportation of interstate freight?

A. Yes.

Q. Now, your total earnings on interstate freight were $13,392,302.05?

A. Yes.

Q. If of that amount $8,464,493.40 was net, the cost of transacting that business was the difference between $13,292,302.05 and $8,464,493.40, $4,827,808.65?

A. Yes.

Q. And for that last named sum you transported 1,952,426,967 tons of freight one mile?

A. Yes, sir.

Q. At a cost, therefore, of 2.47 mills per mile?

A. Yes.

RE-DIRECT EXAMINATION.

By Mr. BUTLER:

Q. In the questions asked by General Young reference was made to the amount of interstate freight coming from eastern points to the line of the Great Northern road at the Minnesota Transfer, and I am not sure that I understood what you stated in respect to the volume of the interstate freight that was taken out of these eastern terminals in Minnesota to points in Minnesota, as compared with that which originated at these points, that is, as to that which was intrastate in Minnesota; do you get my point?

A. I catch your point, although I didn't understand General Young's question the same as you have stated it. When I stated that I thought approximately fifty per cent of the business starting from these terminals came from the Minnesota Transfer, I had in mind all the business; not intrastate, but all of the business, state and interstate.

Q. And in speaking of the Minnesota Transfer, the word "originating" at the Minnesota Transfer was used. Now, that is a place where some local business originates, there is a local station there?

A. Yes, and there are some team tracks and some local industries that have tracks connected with the tracks of the Minnesota Transfer Railway Company.

Q. But this expression of yours, fifty per cent originating there, did not mean that local business there?

A. No.

Q. It means originating on the line of the Great Northern?

A. No, coming to the Great Northern there.

Attorney General YOUNG: That is the way I understood him.

Mr. BUTLER: I thought it was clear, though I wasn't perfectly certain.

Q. And something was said about where the merchandise distributed from the eastern points in Minnesota to Minnesota points on the line of the Great Northern came from, and I think you said as you knew it, that is, as the Company knew it, it originated here.

A. Yes.

Q. For the most part.

A. Yes.

Q. That is, the amount originating here as intrastate business, as I understood your meaning, was greater than the amount coming on through billing as interstate shipments?

A. Yes.

Q. Though that which originated here as a local shipment did perhaps at some other time come in from the east here, to the merchants and others who were shipping it out?

A. Yes.

An adjournment was here taken until Thursday morning, May 6, 1909, 10 o'clock.

Federal Building, St. Paul, Minn., Tuesday, May 11, 1909, the hearing was resumed at 10 o'clock A. M.

FREDERICK H. PARKER,

recalled on behalf of Complainants, testified:

By Mr. BUTLER:

Mr. BUTLER: We desire to offer in evidence the 19th annual report of the Great Northern Railway Company, fiscal year ended June 30, 1908. (Marked Complainant's Ex. 54-Parker.)

Q. Mr. Parker, I call your attention to the paper marked Ex. 53-Ward, under caption "Great Northern Railway Company Statistics for Business year ended June 30, 1908," and to the first subdivision thereof under the heading "Mileage in System," and I would like to have you state the source of the figures stated under that heading.

A. Those figures were taken from page 49 of our 19th annual report for the fiscal year ended June 30, 1908.

Q. And I call your attention to the next subdivision under the heading "Mileage in State of Minnesota" and ask you the source of those figures.

A. They were obtained from the same page of the same report.

Q. And I call your attention to the next heading "Equipment on System."

A. Those figures were obtained from page 50 of the same report.

Q. And the figures under the heading "Average capacity of Equipment."

A. Those figures were compiled from the records in the office of our general superintendent of transportation.

Q. Now, do all the figures relating to the mileage and equipment so far referred to appear of record in the books and accounts and records of the company?

A. Yes, sir.

Q. The average capacity of equipment is figured from a list showing the details of the equipment, the number of cars at various capacity and of various kinds, and the average taken?

A. Yes, sir.

Q. I call your attention to the figures under the heading "Traffic on System—Freight," showing tons revenue freight carried, tons revenue freight carried one mile, freight revenue, tons revenue freight per train mile, tons revenue freight per loaded car-mile, and ask you the source of the figures stated under that heading.

A. The figures shown after the words Tons Revenue Freight Carried, were obtained from the records in my office, our regular statistical records; the figures shown after the next two items, namely Tons Revenue Freight One Mile and Freight Revenue, are shown on Ex. 30-Parker.

Q. And that exhibit was prepared from the records in your office?

A. Yes, sir. The figures shown after the next two items, viz: Tons Revenue Freight per Train Mile and Tons Revenue Freight per Loaded Car Mile, were obtained from page 40 of the 19th annual report.

Q. Now, the statistics under the heading "Passenger," can you give me the source of the figures under that heading?

A. Those figures were obtained from the records of the

auditor of passenger receipts.

Q. That is, from the office of Mr. Tilton?

A. Yes, sir.

Q. Of the department of accounts that he is at the head of?

A. Yes, sir.

Q. And the figures under the caption "Traffic in State of Minnesota—Freight Misabe Division"?

A. The figures opposite the first two items Tons Carried, and Tons One Mile in Minnesota, were obtained from the records in my office. The next three items, Average Haul in Miles for the Entire Distance, and in Minnesota and Revenue Allotted to Minnesota, were obtained from Ex. 33-Parker.

Q. And that exhibit was prepared from the records in your office?

A. Yes, sir. The next three items, Revenue per Ton in Minnesota, Revenue per Ton per Mile in Minnesota, and Relation of Revenue per Ton per Mile from Local Traffic to Interstate Traffic, are computations made from the foregoing items on this same statement; they are also of record in my office.

Q. And under the same heading the figures relating to the iron ore traffic?

A. The items Tons Hauled and Tons One Mile, were obtained from my statistical records. The items Revenue, Average Haul in Minnesota, and Total Average Haul, were obtained from Ex. 33-Parker.

Q. Which was made from the records of your office?

A. Yes, sir. The items Revenue per Ton and Revenue per Ton Mile are computations made from the foregoing items on this statement, also of record in my office.

Q. Now, the figures under the heading Other Divisions in Minnesota, Excluding Misabe Division?

A. Items opposite the words Tons Carried and Tons One Mile in Minnesota were obtained from records in my office. Items, Average Haul in Miles for Entire Distance and in Min-

nesota, and item Revenue Allotted to Minnesota, were obtained from Ex. 33-Parker, which was prepared from records in my office. Items Revenue per Ton in Minnesota, Revenue per Ton per Mile in Minnesota, and Relation of Revenue per Ton per Mile from Local Traffic to Interstate Traffic, are computations made from the preceding items in the same statement.

Q. As respects the figures under heading of All Divisions in Minnesota?

A. The Tons Carried and Tons One Mile in Minnesota were obtained from records in my office. The items Average Haul—Miles—Entire Distance, and In Minnesota, and the Revenue Allotted to Minnesota were obtained from Ex. 33-Parker, which was compiled from records in my office. Items Revenue per Ton in Minnesota, Revenue per Ton per Mile in Minnesota, and Relation of Revenue per Ton per Mile from Local Traffic to Interstate Traffic, were computed from the previous items on this same statement. Item Average Total Haul of all Interstate Traffic touching Minnesota, excepting Iron Ore, was obtained from Ex. 33-Parker, which was compiled from records in my office.

Q. And the figures under the heading "Passenger, Gross Earnings," have you examined the Tilton exhibits to see whether these figures appear there?

A. I have.

Q. And you may state in which of the Tilton exhibits these figures may be found.

A. Items Passengers Local to State and Passengers Interstate Touching Minnesota, were obtained from Ex. 39-Tilton, which was made from the records in the office of the Auditor of passenger receipts. Items Passengers Carried Local, Passengers Carried Interstate, Passengers Carried one Mile Local, Passengers Carried one Mile Interstate, Average Haul of Passengers within the State of Minnesota, under subdivisions local and interstate were obtained from Ex. 37-Tilton, made from

records in the office of our auditor of passenger receipts.

Q. Now, as to the figures under the heading "Operating Expenses, System and State"?

A. The first three items, Total Gross Earnings on System, Total Operating Expenses on System, and Net Earnings on System, were obtained from page 38 of our 19th annual report. The next item under the caption "State," heading "Total Gross Earnings," was obtained from pages 45 and 45-A, annual report to the Minnesota Railway Commission for the fiscal year ending June 30, 1908. The next item, Total Operating Expenses, was obtained from Ex. 47-Martin. The next item, Total Net Earnings, is the difference between the two preceding items.

Q. And there is one remaining item under that head.

A. The items reading "Of the Total Operating Expense within the State there has been Allocated to" Freight $8,141,-355 and "to Passenger $3,670 058" were obtained from Ex. 47-Martin.

Q. Calling your attention to page 5 of Ex. 53-Ward, from what source come the figures on that page?

A. All of the figures shown on page 5 were taken from Ex. 47-Martin.

Q. Page 6 contains only a note as follows: "It is estimated that of that interstate freight touching the state of Minnesota, from fourteen to seventeen per cent of the ton miles made within the state are made by freight passing entirely across the state, without receiving any terminal service within it, nor any yard service within it, except what is involved in breaking and making up trains in divisional yards. About one-half of the total mileage in Minnesota is operated as main line, and the remainder as branch line." Did you make the estimate upon which is based the statement that "Of the interstate freight touching the state of Minnesota from fourteen to seventeen per cent of the ton miles made within the state are made by freight passing entirely across the state"?

A. I made some figures from which that estimate was derived. That includes principally the business between Superior and Superior docks (which are in Wisconsin) and points west of the Minnesota-North Dakota state line.

Q. And from the calculations you have made and the figures you have examined in your office, are you able to state whether or not the statement is true?

A. Yes, sir; I am; it is true.

CROSS-EXAMINATION.

By Mr. O'BRIEN:

Q. Mr. Parker, you prepared the statement which appears upon page 6 with reference to the amount of interstate business that crosses the state?

A. I prepared the figures from which that estimate was derived on page 6.

Q. I suppose wheat received in North Dakota and delivered in Superior would be freight of that character, would it not?

A. Yes, sir.

Q. And you are quite convinced that the statement of the percentage found on page 6 which that character of freight bears to the entire freight is correct?

A. Yes, sir.

Q. Now, there is a great deal of freight hauled by your road in the state which is interstate freight, but is hauled upon local trains, and under the same conditions, so far as the haul is concerned, as those which surround the movement of intrastate freight, is there not?

A. Well, I am not able to testify as to that, Mr. O'Brien. I presume, of course, that our trains have both intrastate and interstate freight in them, but as to the conditions—

Q. Is there not freight received by your road from other roads which originated out of the state and is delivered by your road to points within the state?

A. Yes, sir; of course, there would be a terminal expense in connection with that at the junction point. These figures are where there is any terminal service in the state. If we receive freight say from Chicago destined to Fergus Falls, there would be a terminal expense at Minnesota Transfer regardless of whether it was on interline way-bills or whether it was rebilled.

Q. A full terminal expense do you think?

A. Why, I think so. Of course, as I said, I am not able to testify to expenses.

Q. Isn't that freight entirely free from all terminal expenses?

A. No, it has got to be handled out at the Transfer.

Q. You don't claim that that freight is practically, so far as the expense of handling is concerned, in the same situation as freight which originates in the Twin Cities and is first delivered to a railroad company in the Twin Cities?

A. Possibly not. I would prefer to have one of our operating men testify as to the expenses; my testimony would not be of any particular value.

Q. Well, so long as you mentioned terminals I just wanted to get your idea as to whether there was terminal expense to that class of freight but as a matter of fact, that has nothing to say at all to the question I asked you; I didn't ask you as to whether it was more or less expensive originally, I asked you if there was freight of that character hauled under those conditions.

A. Yes, there is.

Q. And on which you receive the same rates as are charged for intrastate freight?

A. On some of it we receive our local rates, on other shipments we would receive less.

Q. Freight of that character would be probably the most expensive interstate freight carried by you, would it not?

A. I am not able to testify as to that.

Q. Freight originating in Dakota, crossing the state without a break, being delivered at Superior, would probably be freight which could be carried at a minimum of expense, would it not?

A. I am not able to say as to that.

Q. Then you don't know the significance of the statement appearing on page 6 that fourteen to seventeen per cent of the interstate freight is what somebody here has called trans-state freight?

A. No, sir; I was merely asked to furnish the figures.

Q. And you simply furnished that figure?

A. Yes, sir.

Q. If you had been asked to furnish a statement of the amount of interstate freight of the character I have been talking about received by you from other lines and delivered in this state, you could have furnished it just as well?

A. Yes, that could have been compiled. In fact, our previous exhibits practically cover that, in a way, our local interstate.

CLYDE W. TILTON,

recalled on behalf of Complainants, testified:

By Mr. BUTLER:

Q. Mr. Tilton, you have been a witness before and told us that you were the auditor of passenger receipts?

A. Yes, sir.

Q. I call your attention to page 2 of the paper here marked Ex. 53-Ward, and to that part of the page under heading Passengers, and ask you if you can tell us the source of the figures appearing there opposite the expressions Passengers Carried, Passengers Carried One Mile, Passenger Revenue, Average Distance Carried—Miles.

A. They were all prepared from the regular records in my office, which are computed monthly.

Q. Calling your attention to page 4 of the same exhibit and to the figures under the heading Passenger Gross Earnings, Mr. Parker when last upon the stand told us that the figures opposite the expressions Passengers Local to State, Passengers Interstate Touching Minnesota, appear on Ex. 39-Tilton, in evidence in this case, and the rest of the figures under that heading appear on Ex. 37-Tilton, also in evidence in this case, those figures I think you testified, when you were on the stand before in this case, were compiled by you or under your direction from the statistics regularly kept in your office?

A. Yes, sir.

CROSS-EXAMINATION.

By Mr. O'BRIEN:

Q. Mr. Tilton, have the statements with reference to the receipts from passenger business in Minnesota as found in the exhibits to which you have just been referring been prepared in the same manner as the returns to the State for the purpose of taxation are prepared?

A. Practically, yes, sir.

Q. Is this amount which you have awarded to Minnesota in these exhibits on a straight mileage pro rate?

A. Why, there would be some difference between the revenue that is allotted to Minnesota in those exhibits for the reason that our statements to Minnesota in reference to mileage are prepared on a different basis; that is, the mileage earnings, the mileage revenue, is apportioned to Minnesota on a percentage basis. That is, the percentage that revenue other than mileage in Minnesota bears to the revenue for the entire line; that percentage is applied to the mileage revenue to obtain Minnesota's proportion.

Q. Well, it is not prepared upon a mileage prorate?

A. That is our statement to the Railway & Warehouse Commission.

Q. I am speaking of your statement here.

A. Well, our statement here is prepared on a straight mileage pro rate.

Q. For instance, supposing there were an earning from a point in North Dakota in which the haul was 300 miles in North Dakota and 300 miles in Minnesota, and the amount collected was $13.50, how much of that would be credited to Minnesota?

A. You are referring now to a straight ticket, are you not?

Q. Yes.

A. Minnesota would get fifty per cent or $6.75.

Q. That is the way in which this is prepared?

A. That is the basis upon which our exhibits are prepared.

WILLIAM B. DODDRIDGE,

sworn on behalf of Complainants, testified:

By Mr. BUTLER:

Q. Your name is William B. Doddridge?

A. William B. Doddridge.

Q. Where do you live, Mr. Doddridge?

A. St. Louis, Missouri.

Q. Have you ever been engaged in the railroad business?

A. Yes, sir.

Q. To what extent? State fully your experience as a railroad man.

A. I entered the railroad service in Ohio as a telegraph operator in 1866 upon the Panhandle Railroad. In 1867 I entered the service of the Union Pacific Railroad as operator and station agent; continued in that capacity at various points until 1879. I then became division superintendent and general superintendent with the same company on their Idaho division until 1884. The next two years I was out of the railroad business and engaged with the Anaconda Smelting Co., as manager of their smelter at Anaconda, Montana. I then became superintendent of the Missouri Pacific lines north of Kansas City, filling that position until 1889. I then became general manager of the St. Louis and Southwestern Railroad at St. Louis, until 1893. Then general manager of the Missouri Pacific until the year 1900. Since that date I have been engaged in private business, mostly expert railroad work, making examinations of properties for bankers, capitalists, railroad companies; and the past two years I have been engaged pretty constantly in the railroad rate cases in the state of Missouri between the railroads of the state of Missouri and the state of Missouri, also in the Arkansas rate cases now pending.

Q. Were you called as a witness in either of these cases?

A. I was called as a witness by the eighteen roads in the

Missouri rate cases, recently tried before the federal court at Kansas City.

Q. In your railroad experience, and since, in your work in connection with railway properties, have you had occasion to consider the cost of doing intrastate freight business as compared with the cost of doing interstate freight business?

A. Yes, sir.

Q. Before coming to the stand, have you seen the exhibit which is here in evidence marked Ex. 53-Ward?

A. Yes, sir; I have had that exhibit and considered it to some extent.

Q. And have you read a transcript of the testimony given in this case by Mr. Frank E. Ward, who is now general manager of the C. B. Q. Railway, but who was for many years employed in the operating department of the Great Northern Railway Company?

A. Yes, sir; I read it over, hurriedly, last evening.

Q. And have you also read the testimony of Mr. Howard Elliott, the president of the Northern Pacific, which was given in that case pending here?

A. Yes, sir.

Q. Mr. Doddridge, can you tell us whether or not the cost of moving intrastate freight business is relatively greater than the cost of moving interstate freight business?

A. Yes, sir, it is greater. I refer, of course, to the states west of the Mississippi river, bordering the river.

Q. Why? What considerations make it so?

A. The principal reason is the proportionate length of the hauls between the two classes of traffic; the state traffic is made up of relatively small units, whereas the through business is made of large units and long hauls. The intrastate business is of either a distributive or a collective character.

Q. What do you mean by collective character, Mr. Doddridge?

A. I mean by collective character it originates at various points throughout the state, whereas the through business is massed at central points and is moved in large volume. From the character of the state traffic in this section of country, except in some special cases, there is not a heavy traffic density that prevails with respect to the other class of traffic.

Q. Is the element of terminal expenses a factor to be taken into consideration, and if so, why, and how, and what bearing does it have?

A. Each shipment of intrastate freight has the expense of two terminals within the state. The word "terminal," as used here means the receipt, the handling, the way-billing, the accounting and the forwarding of the traffic or its receipt. The interstate freight if it is of a trans-state character, passes through the state without this class of expense, and may have no terminal in that sense within the state. Interstate traffic originating beyond the state line and having destination within the state would have but one terminal expense chargeable to the state.

Q. Are there any other elements that come to your mind as having a bearing upon the question of relative cost?

A. The state freight is largely carried upon what is known as local trains—made necessary by the distributive character of the business. These trains are run daily, except Sundays, regardless of the tonnage to be moved. They cannot be operated to their full tonnage efficiency. The result is they do not produce more than one-fourth the ton miles per train mile than that produced by the through trains; the runs are shorter, and when traffic is heavy the train crews handling those runs make considerable overtime, thereby largely increasing the cost of transportation of freight handled by that class of trains. The switching at the local stations is a source of great expense in the matter of the maintenance of equipment,—arising from broken draw-bars pulling out draft rigging, etc. In the hand-

ling of the state business or the short-haul business there is a large excess in the use of equipment over that of the through business.

Q. Why so?

A. If a shipment moves ten miles, the time required for loading and unloading the car and the expense of switching it at both ends of the run would be identical with that of a shipment moving a thousand miles, therefore the ratio of expense increases or diminishes in proportion to the length of the haul.

Q. As to the use of sidetrack mileage, how do the demands made for the state traffic compare with that for interstate traffic?

A. Referring to Ex. 53-Ward, I notice that in the state of Minnesota the sidetrack mileage is about thirty per cent of the main-track mileage. In my judgment, if there were no local business in Minnesota, not more than one-half of this sidetrack mileage would be required to transact the through business of the road. The same condition, I judge, would prevail with respect to the necessity for local stations, perhaps in much greater proportion.

Q. You spoke of the element of maintenance of equipment. How does that element of expense compare, per unit, in the state traffic as compared with the interstate traffic?

A. The extra expense attributable to the state traffic per ton per mile with reference to maintenance of equipment in my judgment would run in proportion to the length of the haul.

Q. That is, if the state haul was one-fifth of the interstate haul, on the basis of ton mile or car mile, it would be five to one,—which do you mean?

A. It would be, in my judgment, five to one.

Q. On which basis?

A. Well, any unit which might be adopted; the ton-mile basis, I should say.

Q. And as respects the demand upon the services of agents, clerks, laborers, superintendents, train dispatchers and the like?

A. In my judgment, the extra cost would run in about the same relative proportions. The station forces at local stations scattered throughout the state made necessary to handle that class of business are not utilized by a railroad company to their maximum efficiency, per unit of service rendered, but in order to provide the necessary facilities to transact the business properly, their services as constituted are necessary, and in that respect it produces a higher cost of service than where there is a large volume of business moved.

Q. Do you think of any other elements that enter into the question of the extra cost of the local business?

A. There is an extra expense in handling the intrastate business in consequence of the necessity for making of large empty-car mileage, with no return or reciprocal loading.

Q. How does that extra element of empty movement arise?

A. In a wheat producing country the movement of grain probably continues for ninety days. Empty cars must be carried to meet this demand. The same principle applies in a movement of livestock. Stock cars, being of a special class, cannot be used for freight subject to damage by weather, therefore there is an empty-car mileage created in handling that class of traffic. The business of the state, taken as an average, moves more or less spasmodically in these respects, whereas, by comparison with through traffic, usually there is a balance of tonnage moving in both directions, enabling the management of a railroad to more economically utilize its equipment and work it closer to its maximum efficiency.

Q. Have you enumerated all of the elements of the extra cost that occur to you?

A. I believe those cover the main points.

Q. From your experience as a railroad man and familiarity with the conditions affecting this question, from the facts stated in the exhibit which you have examined, and the testimony of Mr. Ward and Mr. Elliott, have you been able to form an

opinion as to the increased cost per unit of doing the state business in Minnesota as compared with the interstate on the line of the Great Northern road?

A. Taking all the circumstances and conditions into consideration prevailing in Minnesota as indicated by the figures contained in Ex. 53-Ward, my judgment is that upon the basis of ton miles, excluding the Misabe ore traffic, the ratio of extra cost per ton per mile of the intrastate Minnesota freight is at least three times, and may be four times, as great as the interstate freight.

Q. In your experience as a railroad man have you ever known any system of accounts to be kept for the purpose of keeping, as a matter of accounting, separately, the cost of doing intrastate business and the cost of doing interstate business?

A. No; sir, I don't know of any railroad company that has ever attempted to do this with mathematical accuracy; and in fact, I feel safe in saying that it would be impossible to do so in that manner. The difficulty that is presented in any system of accounts is that the expenses of the various classes of traffic are largely common and cannot be identified or separated other than upon some arbitrary basis. The state lines in that respect are artificial barriers, and railroad companies in the management and operation of their properties consider the whole as a unit, and any separtion of the expenses must necessarily be made a matter of some one's opinion as to their apportionment, and one of the chief difficulties would be to meet the changing conditions from day to day and from month to month that occur in the operations of a railroad. The cost of transportation in one month with another may vary with changes in conditions fifty per cent.

Q. I think when Mr. Staples, a member of the Railroad and Warehouse Commission of this state, was upon the stand, he spoke of various methods of apportioning to the state the cost of doing the intrastate freight business, and among them he

mentioned the train mile as a basis, the car mile as a basis, the ton mile as a basis, and the revenue as a basis. Which, in your judgment, is the preferable method of apportioning to the state the cost of doing the intrastate business?

A. From the consideration which I have given this subject I have come to the conclusion that the best method of determining the expenses as between the interstate and intrastate traffic is upon what is called the basis of gross earnings derived from each. The ton-mile basis is merely a mechanical unit and represents only one of many of the elements of the real cost of transportation. It is valuable for purposes of a limited class of comparisons. It deals with but one element, that is, the weight and distance. Railroad companies in making their tariffs upon which their charges are collected, first prepare a classification, dividing the property into thousands of combinations. Generally there are ten different rates per hundred pounds between the same points, and other rates in addition. These rates, in connection with the classification, take into consideration the space occupied by the freight, the value of the commodity, the risk of loss and damage in its transportation, and the value of the service to the shipper. The rates for short hauls are higher, proportionately, than for long hauls, and by using the sum of the gross earnings upon which to apportion the expenses, you have a representative figure that takes into account all of these items, and the expenses are apportioned equitably between the different classes of traffic in the proportions and upon the same basis upon which the rates were adopted, the rate representing the ratio of the cost and value of the service. Why should it not also represent the amount of expense of transportation attributable to that particular article?

Q. Do you consider the train-mile or the car-mile useful for such apportionment at all?

A. No, sir; the car-mile and the train-mile would carry the same general objections that obtain in the ton-mile.,

Q. Do you know of any way of getting at the cost of intrastate business with exactness?

A. There is no method that I know of that comes as near being representative as the gross-earnings basis. While I would not pretend to say that the gross-earnings basis is accurate, it is the best method, in my judgment, that has been suggested.

Q. How do you make up, in view of your statement, that there is no method that is accurate or absolutely accurate, upon what do you base the opinions that you have here expressed?

A. Because the freight handled and the expenses created in handling it—as well as the passenger business—are common to all classes of business and the conditions and the circumstances vary every day. By way of illustration, I will say that some of the railroads at their local depots charge twenty-five per cent to the passenger business and seventy-five per cent to the freight business at that station, where the employes that handle both classes of business are common. Now, those proportions on some days might be fair and on other days and at other times eminently unfair, but for the purpose of keeping accounts an arbitrary division of that kind has been adopted, based upon experience, and answers the purpose reasonably well, but it cannot be said to be accurate or mathematically correct.

Q. That is, the division between freight and passenger?

A. Well, I merely used that as an illustration.

Q. Now, how would the situation be in undertaking to divide such station expenses as you referred to in your last statement between state freight and interstate freight or state passengers and interstate passengers?

A. The division would be simply more complicated and uncertain. Your business is carried in the same cars, handled

by the same men, proportions relatively from day to day changing; the same question would come up, for instance, in the breakage of cars and the handling of the local business; a car might receive $25 damage and it might contain and carry to that station both classes of goods; it would be a matter of physical impossibility to apportion and to trace out all of these small items and properly allocate the expense as between the state and interstate business; it would require an enormous force of men to come anywhere near doing it, and when the reports were centralized and brought into a concrete form, even then it would become a matter of arbitrary judgment how the division should be made.

Q. And is that true as respects both the freight and passenger business and the division between state and interstate cost of each?

A. Yes, sir, it is true as to both.

Q. One of your statements here referred to conditions in the states on the west bank of the Mississippi river. Can you tell us whether or not the conditions as affecting this item of extra cost of the state business are the same or differ in these states in your judgment?

A. The average aggregate results in my judgment are substantially the same. For instance, in the state of Minnesota, you have one special class of traffic—iron ore—which does not prevail in any of the other states, and which cannot be compared to any other traffic, for the simple reason that there is no other traffic moving under the same circumstances and conditions with which to compare it; but in other respects we have substantially the same conditions, about the same amount of carload freight varying, of course, somewhat in its detail. In Minnesota you raise a great deal of wheat, in Missouri we have a great deal of coal. In Louisiana and Arkansas the preponderance of the business probably runs to products of the forest, which you also have in Minnesota; the conditions substantially

are the same in that respect, except in the state of Missouri we have, on both borders of the state, large cities, concentrating points, distributing points, namely, the city of St. Louis on the east and Kansas City, St. Joseph and other Missouri river points on the west. This fact creates a traffic condition in Missouri somewhat more favorable to reducing the ratio of cost of moving intrastate traffic.

Q. Is that because there is a good deal of state business across the whole state from St. Louis to the big centers on the western boundary of the state?

A. Yes, sir, that is the reason; and that condition, as I understand it, does not prevail in Minnesota.

Q. So far your examination has been confined to the relative cost of the intrastate freight to the interstate freight in Minnesota. I would like now to speak of the relative cost of intrastate passenger business to interstate passenger business on the Great Northern in Minnesota. Are there elements of extra cost for this state business?

A. There are. The elements underlying the extra costs in handling the freight business to a certain degree obtain in the handling of passenger business. That is to say, the expense increases as the length of the haul decreases. But in the passenger case it is not so great as it is in the freight as the arrangements of detail of handling the passengers are quite different from that of the freight. The figures for the passenger traffic on the Great Northern show that the average haul of the local traffic is less than one-third that of the interstate, even within the state itself. The figures do not show the total average haul of interstate without the state, which must be very much larger. The state passenger business has a much greater use of terminals, equipment and other facilities in proportion to the passenger miles produced. The increased number of passengers taking and leaving trains in the short trips exposes them to a proportionately greater risk of accident; the cars

are not so well loaded upon the average. A railroad company in Minnesota handles about three state passengers to produce the same amount of revenue that is produced by one interstate passenger. The intrastate passenger has the service of two terminals.

Q. Is the question of the handling of baggage and sale of tickets and the services usually rendered by the company to the passenger at the departing and arriving station an element to be taken into account, and if so, what is its bearing?

A. Of course, those expenses are all embraced in the two terminals. The supplying of waiting-rooms, heat and light, the sale of tickets, the handling of baggage, make the terminal passenger expense very much greater than in the interstate passenger.

Q. From the facts before you, have you been able to form an opinion as to how much, on the Great Northern in Minnesota?

A. In my judgment, the average extra cost per passenger-mile would be, conservatively, twenty-five per cent.

Q. Of the state over the interestate?

A. Of the state over the interestate.

CROSS-EXAMINATION.

By Attorney General YOUNG:

Q. Mr. Doddridge, as I understood you, in stating your railroad experience you did not claim to ever have been engaged in the railroad business in Minnesota?

A. No, sir.

Q. And for the last eight years you have not been engaged in railroad business at all?

A. No.

Q. Except indirectly?

A. Well, except in a special way.

Q. Except as a witness for railroad companies in rate cases, is that the idea?

A. No. Oh, no, I have been making examinations of railroad properties.

Q. For what purpose?

A. For the purpose of valuing them, ascertaining their earning capacity, judging as to their efficiency of operation; in other words, I have been a railroad expert doing expert work.

Q. For railroad companies?

A. For both railroad companies and others.

Q. Well, are there other than railroad companies that own railroads?

A. There are others that have railroads examined and have reports made—bankers, trust companies, capitalists.

Q. Persons investing in railroad securities?

A. Yes, sir.

Q. You have testified, you say, in the Missouri rate case and in the Arkansas rate case?

A. Yes, sir.

Q. For the railroad companies?

A. Yes, sir.

Q. And in those cases you gave your opinion on this question of the division of cost between intrastate and interstate business, did you?

A. Yes, sir.

Q. You stated that the principal reason for the greater expense of the so-called intrastate business as compared with interstate business was the shortness of the haul of the former as compared with the latter?

A. Yes, sir.

Q. You are not a railroad accountant, are you?

A. No, sir.

Q. You are not an accountant of any kind?

A. Not a professional accountant, no, sir.

Q. You never have been engaged in the accounting business for any railroad?

A. No, sir.

Q. Or any other institution?

A. No, sir.

Q. You do know, do you not, that railroads keep their accounts by divisions and not as between intrastate and interstate business?

A. Yes, sir.

Q. And you also know, do you not, that any business which passes over one entire division of a road is classed and regarded as through business as compared with business which passes over less than one division?

A. Well, I don't exactly know that that would prevail in all cases. I judge, however, that on a road like the Great Northern, on its main lines that would be true, or the Northern Pacific.

Q. If you have any definite opinion as to what constitutes through railroad business, will you kindly tell us what it is?

A. Business on a road like the Great Northern, loaded in their through trains, passing over more than one division, I should say would be through business.

Q. Do you mean passing over at least one division, or passing over at least two divisions?

A. Well, passing over one complete operating division.

Q. You know, do you not, that a very large part of the intrastate business of Minnesota passes over at least one entire division of the Great Northern road, and that a great deal of it passes over two entire divisions?

A. I am not familiar with the operating conditions on the Great Northern road, I have had nothing to do with it.

Q. Assuming that a very large part of the business passes over at least one entire division, and that a considerable portion of the intrastate business passes over two entire divisions, would you class that business in your classification as short-haul business or long-haul business?

A. In dealing with the subject we deal with the general averages as shown by the figures; we find the ratio of the cost of the so-called through business, taking all of the business of the railroad into consideration without reference to the detail arrangements of its movement.

Q. What are the boundaries of the haul on what you call your short-haul business?

A. This exhibit—

Q. Irrespective of any exhibit.

A. Well, that is what I base my testimony on—is on this exhibit.

Q. You have testified generally that short-haul business is very much more expensive to carry than long-haul business; what do you mean by short-haul business? Just give us a definite conception of it.

A. In the case of Minnesota, I mean the figures given in this exhibit; that is, 113 miles, if I remember, against 557.

Q. Are the opinions that you have been giving us in this testimony of yours today based upon that exhibit, or are they based upon your experience as a railroad man?

A. Well, they are based on my experience in connection with this exhibit.

Q. You haven't had any experience in connection with this exhibit until last night, have you?

A. Well, I have had this exhibit a sufficient length of time to go through it and to study it.

Q. Well, irrespective of that exhibit, what do you mean when you talk about the relative cost of doing business between the short-haul and the long-haul business of a railroad?

A. The business of a railroad which is made up of short hauls compared with that of long hauls, the ratio of cost—

Q. I have not asked you about the ratio of cost, I have asked you what do you mean by short-haul and long-haul; how long a haul must one be before it ceases to be a short haul?

A. Well, you have got to deal with the conditions that exist, wherever they are. On some railroads it is one figure and on others it is another. In this case the ratio is 113 to 557.

Q. Has you definition or your mental conception of a long haul and short haul anything to do with the question as to whether the traffic is hauled over one entire division of the road, or whether it is hauled over less than one entire division?

A. I don't take that into consideration.

Q. You don't take that into consideration at all. You stated in your general testimony, I think, that short-haul business in your conception of it, was carried on way-freight trains?

A. I said the large percentage of intrastate business was carried upon local trains.

Q. How do you know about how it is carried in Minnesota?

A. Simply because the conditions in Minnesota are similar to those in other states.

Q. How do you know they are?

A. Well, I know it by general observation. Of course, I have been over the state of Minnesota.

Q. How do the conditions in Minnesota compare with those in Dakota and Montana?

A. The conditions in Montana are, I think, quite different from Minnesota.

Q. How much have you traveled over Minnesota?

A. Not a great deal.

Q. Would you, as a railroad man, testify that conditions pertaining to traffic in North Dakota were the same as those in Minnesota?

A. Well, no, sir, not without some information, which I haven't got.

Q. Well, you would be just as well qualified to go into Dakota and testify in a rate case as you are to come into Minnesota, so far as your familiarity with local conditions are concerned, wouldn't you?

A. Well, I would not be qualified to testify in Minnesota if I hadn't the figures and conditions before me.

Q. Then you are testifying on the theory that Mr. Ward and Mr. Elliott told the truth and you come here to corroborate them, do you?

A. No, sir, I come here to testify on my general experience in dealing with these subjects, and upon the basis of the figures that have been put in evidence here by the Great Northern railroad, and the natural effect and results that these figures indicate.

Q. Have you examined any of the books, the records, trainsheets or any of the other sources of information with reference to either intrastate or interstate business of the Great Northern railroad?

A. No, sir.

Q. So far as Minnesota is concerned, you do know, do you not, that we have in Minnesota two large cities, and that we have in Minnesota great flouring and saw-mills, that in very many directions it is a great producing state, and that it has a market for all the things that it produces right here at home? Did you consider those things?

A. Well, I consider its cities, its wheat, its forests, and I eliminated its iron ore, because as I stated in my direct testimony, there is nothing to compare that with, there is nothing like it. The results, however, as indicated in that statement, indicate substantially the same conditions that prevail in the other states south of you—of course, with some differences; from a railroad standpoint the differences are not so great as to substantially change the results.

Q. How do you know, if you are not familiar with these conditions, do you know anything about the relative density of population of Minnesota and Arkansas?

A. Why, yes, I was looking at your census report yesterday on that subject.

Q. The density of population in Missouri is a great deal more than it is in Minnesota, isn't it?

A. Well, yes; of course, the city of St. Louis adds very largely to the population there.

Q. And the sparseness of population in Minnesota arises largely from the fact that there is a considerable portion of the northern part which is not inhabited or improved?

A. Yes, that is true.

Q. But in the producing part of Minnesota which is substantially the boundary of the state as it will be inhabited for a good many years, the population is practically as dense as it is in Missouri?

A. I think it is.

Q. But you would not compare the state of Minnesota, the portion that I refer to, to Arkansas, would you, and those states farther south—Louisiana?

A. Well, the traffic conditions in Arkansas, as shown by the statistics are quite similar. Arkansas has a great deal of territory that is unpopulated, and then it has its sections that are densely filled; Texas the same way; Missouri the same.

Q. Your idea, then, is that the conditions all over the United States are substantially the same?

A. No.

Q. Local rates in one state would govern local rates in another?

A. No, I don't say that. I am speaking of the territory west of the Mississippi river.

Q. You spoke about the terminal charges on your so-called short-haul freight as being one of the substantial elements which made the cost greater than that of handling the so-called long-haul freight. Now, as a matter of fact, there are two terminal charges connected with every shipment; there is its point of origin and its point of destination, in some of these shipments both terminals would be in Minnesota, and in other

shipments they would not, but as a matter of fact the two terminals do enter into every shipment, do they not?

A. Yes, sir.

Q. And in determining the cost of a shipment so far as terminal charges are concerned, whatever they amount to would be apportioned back over the length of the haul so as to ascertain the total cost of the haul, and that fact would make the short haul somewhat higher per mile than the long haul?

A. Yes, it would make it higher per unit, whatever unit you use, mile or ton, or—

Q. Yes, I mean per unit. Could you give us any definite idea of what the terminal charge would be on a carload of any particular kind of merchandise, as compared to the straight-away haul?

A. Why, the only way that I know of to get at that is to take the total charge to the stations and yards and apportion it to the freight handled. You can't very well get at it by taking a specific shipment or a specific car, because you don't get into that all of the elements that enter into the terminal cost, you know. You can get the labor, you can get the clerical hire and a number of items, but to get accurately at that information you take the total expense for a given period chargeable to—

Q. And charge it to the total business for that period?

A. And then divide the actual tonnage handled, and in the case of the Great Northern road this report shows it to be—

Q. Well, that report speaks for itself.

A. Yes—eighteen per cent.

Q. You stated in your direct testimony that state business within Minnesota is largely carried on local trains; where did you get that information?

A. I think I got that information from the testimony that has been introduced here. I was not stating that—

Q. You wasn't stating it of your own knowledge?

A. No, not from my own knowledge.

Q. You are not able to tell how much interstate business is carried on local trains in this state?

A. No, sir.

Q. Nor how much state business is carried on through trains?

A. I can't state that with exactness, in Minnesota?

Q. You could give that information as to the state of Missouri, if it were pertinent, could you?

A. Well, I don't know whether I could from memory. I can give it to you in the state of Arkansas.

Q. I don't care what it is, I only want to know if you could furnish it from memory or from records.

A. I can furnish it in Arkansas.

Q. From accurate records?

A. Yes, sir; that is, I can furnish it for the time the matter was looked into; it changes, you know, it doesn't run regular.

Q. I know, but it is an ascertainable fact?

A. Yes, sir; the amount of tonnage, state and interstate, carried upon local trains can be ascertained from records.

Q. And the amount of the respective tonnage of state and interstate business carried on through trains can also be ascertained?

A. Yes, sir, that is a matter of figures.

The MASTER: Separately?

WITNESS: Yes; it can be obtained separately; that is, for a given period. I will say, however, that it is quite a task to compile it.

Q. You stated, in general terms, I believe, that you knew of no railroad that kept records showing the relative cost of intrastate and interstate business, and that you yourself never kept such records?

A. I so testified, and I don't believe that that is practicable.

Q. You also stated that such an account could not be kept with mathematical accuracy?

A. Yes, sir.

Q. It is also true, is it not, that a division of the expenses between freight and passenger business cannot be done with mathematical accuracy?

A. That is true.

Q. Because there are a great many of the items of expense that are common to both lines of business, and yet all railroads do, do they not, allot on some basis or other, the expenses between passengers and freight?

A. Yes, sir, upon some arbitrary basis.

Q. And they adopt, as a rule, the basis which seems the most rational to them, and the one that is most likely to produce the closest approximation to accuracy?

A. Yes, sir.

Q. Now, it is not impossible, is it, in considering the matter of intrastate and interstate business, to adopt some arbitrary basis for apportionment that would be just as accurate in its results as are the results obtained by the apportionment of cost between passengers and freight?

A. I think that can be done by the gross-earnings method.

Q. What makes you tie to the gross-earnings method? You are not an accountant.

A. Well, I have some practical common sense, and I have had a great deal of railroad experience, and I have been dealing with accounts, examining accounts for a great many years and analyzing the effect of certain methods, certain things in connection with railroads. The reason why I think that the basis of gross-earnings is the best, I set out pretty fully in my direct testimony. I think it is more representative and more accurate than the ton-mile basis. The ton-mile basis was adopted many years ago for purposes of accounting because it was a simple, easy method to get at a few direct comparisons.

This question of making a division as between the expenses of doing the state and interstate business, is a relatively new requirement.

Q. It is a requirement, is it not growing out of the efforts to establish reasonable rates by public authority?

A. Control rates, yes, sir.

Q. And is absolutely necessary in order that public officials may act intelligently and do no injustice either to the railroads on the one hand or to the public on the other, is it not?

A. It is necessary to have some definite information, I take it, on that point, but in the first place, in my own judgment, I do not think it is possible to intelligently supervise the making of rates, or the establishment of maximum rates, without taking into consideration all of the traffic and all of the business of the railroad.

Q. I didn't ask you that.

A. Well, I led up to it.

Q. Well, I am asking you about the necessity of getting at this item of expense.

A. Well, I will say that I don't believe that there is any practical way in which it can be done with mathematical accuracy.

Q. You are perfectly safe in making that statement.

A. I believe I am.

Q. There is nobody questions that.

A. Well,—

Q. It can be no more done with mathematical accuracy than can the apportionment between passengers and freight, or than can any other item of expense which involves the common service of either the equipment or the employes in its performance; but what I asked you a little while ago, (and I think you answered it in the affirmative,) an arbitrary basis can be selected which will ascertain the units of cost of the transportation of intrastate and interstate business with as great accu-

racy as the units of cost can be ascertained between passengers and freight; isn't that true?

A. I don't believe I would want to say that that is true wholly. Of course the units of cost—a basis could be established that would approximate it.

Q. And that is all that is possible, isn't it—to approximate it?

A. Yes.

Q. And there may be several methods employed for the purpose of ascertaining that approximation, may there not? We have the ton-mile method, we have the train-mile method, we have the car-mile method, we have the gross-earnings method, and there may be others, and all could be employed and checked against each other, could they not, for the purpose of comparison?

A. Well, I don't think that the ton-mile and car-mile or the train-mile method should be considered at all.

Q. They are considered in separating the cost of passengers and freight, aren't they?

A. Yes, but I mean in undertaking to make a division as between the expense of doing these two classes of freight that are so interwoven and wedded together.

Q. But you do think it could be done on the gross-earnings basis?

A. The gross-earnings basis, in my judgment, would come nearer representing the facts than any other.

Q. You never have made a division on the gross-earnings basis, have you?

A. I never have made a division except for purposes of ascertaining the expenses attributable to state freight for the purposes of these rate cases.

Q. Well, have you made such a computation with reference to Minnesota?

A. No, sir, I have not.

Q. On any such basis?

A. No.

Q. Do you know of any railroad company in Minnesota that has?

A. No, sir, I do not.

Q. Do you know why they don't attempt it, even on that basis?

A. No, sir.

Q. You know it is to their interest, do you not, to not reveal such information, even if they have it?

A. No, sir, I don't know that.

Q. If such information is in their possession and not revealed and isn't in the possession of the public officials, then public officials would have to depend, would they not, upon the oral opinion testimony of railroad men, to get at the matter?

A. Yes, sir, I presume so.

Q. Human experience has taught us that there is a great deal of danger in permitting people to give self-serving testimony in important cases where there is no possibility of checking it, hasn't it?

A. I don't believe I can qualify on that.

Q. If we have to go to railroad men to get their opinions upon this question and there is no other source of information, then railroad men would have it in their power to prove the State out of court in any case, wouldn't they? Do you understand that?

A. Why no, I don't think they would. I think the railroads have opened their accounts and books to the State's experts; I know that was done in Missouri and in Arkansas.

Q. They haven't kept these accounts, have they? They had no books to open to the public on these matters?

A. Well, they have opened such records and books as they have, as they have kept, as the Interstate Commerce Commission required them to keep.

Q. Well, does the Interstate Commerce Commission make any requirement at all with reference to this subject?

A. No, sir.

Q. Well, what are you talking about, then?

A. Well, I am talking about the books.

Q. Now, if they have these accounts for their private information—and I believe I understood you to say that there were such accounts with reference to Arkansas?

A. No, I didn't say that; I said—

Q. Did you say you had kept such accounts?

A. No, I said we had prepared statements from the books for use, for filing, for exhibits, taken from the general books.

Q. But not from any accounts kept from day to day, from week to week, and from month to month, for the purpose of showing this division of expense?

A. No; I don't think that any railroad has ever undertaken to keep such a record.

Q. But very many railroads have undertaken to give testimony in rate cases, based upon the opinion of their officers and other experts, have they not, on this question?

A. Why, this is based upon experience.

Q. Do you know of any two of them that ever agreed on what the relative cost of the two kinds of service was?

A. I don't know that I have specifically, but I know that they all agree—

Q. That there is some difference?

A. —that there is a difference, a wide difference.

Q. How is the court going to find what that difference is if it has no information before it but the divergent opinions of alleged experts?

A. Well, that is one of the things that the court would have to I suppose use his best judgment upon in arriving at a conclusion.

Q. On the other hand, if there was a sane and reasonable

method of apportionment by a system of cost accounting, the court could feel reasonably safe, could it not, in following it?

A. Well, I don't know of any way to get at it accurately.

Q. If there is no other—you say mathematically?

A. Accurately, I said, accurately.

Q. Does that mean mathematically?

A. Why, it would mean—yes, it means mathematically, because if you have a dozen items of expense before you and you have to decide how those expenses are to be apportioned, and would have to adopt an arbitrary method, then it would be a matter of your opinion as to how they should be divided. You haven't got the factors, in this sort of a complication, to guide you in making a division, it must be on some arbitrary basis. The gross earnings is an arbitrary basis, and it has been suggested by the best accountants as being the nearest perfect, and it was adopted in Missouri by Judge McPherson; it was adopted here by Judge VanDevanter in the Arkansas cases.

Q. Judge VanDevanter didn't render any final opinion in the Arkansas case?

A. No, but as the best method. And I believe the railroad companies, if any one can suggest a better method, would be glad enough to consider it.

Q. Well, as I understand you, they don't employ any method?

A. No, they don't make this division in their books, because they are not required to do it, and it is not necessary information to the management in the operation of the railroad, and the interstate Commerce Commission don't require it, and it is a matter that would cost a great deal of money, require a great deal of clerical work.

Q. If it cost any additional money, it would be added to the operating expenses of the road, would it not—

A. Yes, sir.

Q. —and be collected out of the public?

A. Yes, that would be the theory.

Q. It wouldn't cost the stockholders anything. At the present time, in your opinion, there is no source of information upon that subject except the opinions of witnesses brought by the railroad companies; am I correct?

A. I don't know of any other source of information unless the State would employ its own experts.

Q. It was testified by the president of the Northern Pacific road that only men of many years of railroad experience were capable of having an opinion upon the subject; do you think that is correct?

A. Well, upon this particular subject?

Q. The division of cost between intrastate and interstate business.

A. Yes, I think it would require a man of experience.

Q. Would you have an opinion as to how long he would have to be in the employ of railway companies before he would be qualified to have an opinion?

A. Oh, I think an ordinary, bright man, with four or five years actual contact with the work would be pretty well qualified to judge of matters of that kind.

Q. Our experience in this case has been that employes of the railway company were reluctant and unwilling to express an opinion with reference to any branch of the business except that under their immediate control, professed to know nothing about it; don't you think that is practically true, that a railroad man knows only the particular business that is under his immediate control?

A. Unless he has had a long line of experience and filled various positions, in fact almost spent a lifetime at it, he is not qualified to judge of things outside of the department, usually, in which he is employed.

Q. But you think that men that have spent a good many

years in the business know instinctively how to divide this matter of cost and to give an opinion upon it?

A. A practical operating man that handled the business and came in contact with it every day and who has been obliged to study the economics of the operations of a railroad, naturally becomes better qualified to judge of these matters than men who have not had that experience.

Q. Don't you think that a man that had spent a year or two keeping the accounts of the cost would be better qualified than either one of them?

A. He would be better qualified so far as the mere bookkeeping was concerned, but he is not familiar with the conditions and circumstances in the field.

Q. He would have before him a record from which any reasonable man could draw reasonable deductions, however, wouldn't he?

A. No; I wouldn't want to accept the opinion of an auditor.

Q. Would you take his statistics if he was keeping a record of these things, and form an opinion upon that yourself?

A. Yes, sir, certain prescribed statistics.

Q. And any expert accountant who was familiar with the subject of railroad accounting generally could make accurate mathematical deductions, could he not, from data of that kind, that would be somewhat better than the rambling opinion of an individual?

A. Well, I don't think his opinion, no—I don't think he could; I think he would have to have in connection with his mathematical knowledge—I think he would have to have practical experience to know how to couple the two together.

Q. If computations are to be made on any of the bases that have been suggested here in this examination, it would be a mere matter of mathematics, would it not, and not a matter of railroad operation; with the information furnished him it would be a matter of mathematics to make the deductions?

A. Well, I think he would have to take into consideration the physical conditions. The auditor is a bookkeeper; he writes the history of what is done after it is done; somebody else does the thinking, the managing and the directing; and knowledge, I believe, of both sides of a question of that kind is essential.

Q. You don't mean to say that the man carrying on the cost accounting of any great industrial enterprise must necessarily know all about the operation of each of the departments of that business?

A. No, but he would be much better qualified to judge as to the results and much better qualified to analyze those results if he had a knowledge of the whole business.

Q. Railroads never put their old general managers and old experienced men that have been in control of the affairs of the company into the accounting department after they have acquired years of experience, do they?

A. No, because their previous positions were superior.

Q. They were superior in the matter of pay, and superior, perhaps, in a general way, but were they superior in the matter of keeping books?

A. No, I don't think so.

Q. If the opinion method of keeping accounts is the best, why don't you resort to opinions in dividing expense between passenger and freight instead of keeping accounts and apportioning the cost upon that arbitrary basis which bears the closest relation to the unit of expense?

A. When those arbitrary bases were originally adopted, as a rule the auditor of the railroad conferred with the management and perhaps—I think they usually agreed on divisions; some roads make those apportionments in one manner and some in another. After they are once adopted and have been running along for a while, there is no necessity for making a change, no special necessity, until the proportions become distorted, some reason arises, something comes up that makes it

important to change those relations. These accounts that have been kept on the railroads, as a rule, have been used one year with another as a basis of comparison, and it made but little difference what the arbitrary method was. We found that to be the case in Missouri, and we found one road did it one way and another another, where conditions were substantially the same.

Q. But you found that they all had some tangible method?

A. Yes, they all had a tangible way of getting at it.

Q. If there is to be no information on this subject except that possessed by the railroad men of long experience, and some great calamity should befall the country so that all the railroad men of that class should happen to die, what would become of the country?

Mr. BUTLER: There would be no use of having any country then.

Q. All that information would pass out like that of the Middle Ages, wouldn't it, for want of a record?

Mr. HOLDEN: General, you forget that the rate-lawyers always would be left! (Laughter.)

Attorney General YOUNG: I think that is all.

Adjourned until Wednesday, May 12, 1909, at 10 A. M.

Federal Building, St. Paul, Minn., Wednesday, May 12, 1909, the hearing was resumed at 10 o'clock A. M.

CHESTER J. McPHERSON,

sworn on behalf of Complainants, testified:

By Mr. Butler:

Q. Where do you live, Mr. McPherson?

A. St. Louis.

Q. And what is your occupation?

A. Assistant to the general manager of the Missouri Pacific, Iron Mountain system.

Q. How long have you been engaged in railroad business?

A. Approximately thirty-one years.

Q. And will you state, somewhat in detail, what positions you have held, and where?

A. I began as a telegraph operator in Michigan, and successively filled the position of station agent, train dispatcher, general yard master, chief clerk to general superintendent, master of transportation, and my present position.

Q. How long have you been in your present position?

A. About four years.

Q. The general manager to whom you are assistant has charge of operation?

A. Has charge of the operation of what we call the Missouri Pacific system, which embraces also the Iron Mountain Railroad.

Q. And how many states are touched by that system, physically?

A. Eight.

Q. In the performance of your duties do you have occasion to observe matters and conditions affecting the operating expenses and the cost of conducting transportation of the various kinds?

A. I do.

Q. And have you given any attention to the matter of relative cost of doing business that is intrastate in the states served by your company as compared with the cost of doing interstate business on the system and in such states?

A. I have given a good deal of thought and study to that subject.

Q. Have you before this occasion been called as a witness in any case in which was involved the problem of ascertaining the relation of cost between state and interstate business?

A. Yes, I was a witness in the Missouri rate case at Kansas City.

Q. That is the case recently tried before Judge McPherson of the United States court?

A. Yes, in Kansas City.

Q. Have you seen and examined the exhibit in evidence in the Great Northern case which is marked Ex. 53-Ward, a statistical exhibit relating to the Great Northern transactions for the year ending June 30, 1908?

A. I have.

Q. Have you also read the transcript of the testimony of Mr. Ward, given a few days ago in this case?

A. Somewhat hurriedly, yes, within the limited time that I had.

Q. Have you also seen and examined the exhibit introduced in the Northern Pacific case in connection with the testimony of Mr. Howard Elliott in that case? The exhibit is marked here Ex. 80-Elliott.

A. Yes, I examined that exhibit on yesterday.

Q. And have you also read the testimony given by Mr. Elliott?

A. I haven't read it all, but nearly all; I had not completed it before I came here this morning.

Q. Mr. McPherson, is there an added or an extra cost attending the conduct of intrastate freight business as compared with interstate business?

A. Yes, there is a very material additional cost.

Q. In the matter of getting at that cost do you know whether or not any railroad company, by any system of accounts, regularly undertakes to divide or does divide the total freight cost in any state as between the state and interstate business therein?

A. No railway company does that, because it is not a practicable problem.

Q. Divisions are made, are they, between the freight and passenger business in each state, by some or perhaps all of the railroads?

A. Yes; that is a different class of business and is susceptible of division, partially by the natural location of expenses and partially by the application of a more or less arbitrary method.

Q. In effecting such division, that is, division of total cost in the state, as between the passenger and freight business in such state, what method or methods may be or are commonly employed for the apportionment to one kind or the other of the business, common items of expense?

A. That would be a division made by the use of the train mileage.

Q. That is, by train mileage is meant the number of miles that passenger trains [illegible] and the number of miles that freight trains make taken together to divide common items in proportion to the respective mileages; is that the idea?

A. That is the purport of my reply; that is what I had intended to state.

Q. Now, in the problem of dividing the total freight cost within any state between the state business and the interstate business, is there any unit, whether train-mile or car-mile or ton-mile, that can be said to be a common unit which may be employed to effect such division accurately?

A. No, there is no unit to which the cost of freight operation can be reduced that will demonstrate in dollars and cents a truthful result.

Q. Why will not the train-mile as a unit do in that as well perhaps as it does to effect division between freight and passenger cost within a state?

A. Well, in the operation of a railroad several measures are used in the work, and the result is measured by the earnings or the revenue. These units or these measures are those of miles made by trains and cars and by tons moved and the distance the tons are moved. These are the freight measures. The passenger measures of operation are the number of passengers transported and the distance they travel. The results of operation are measured by the earnings or the revenue received by the company for its work. If I may explain these measures, I will show my view of their usefulness.

Q. I would like to have you do so, Mr. McPherson.

A. Now, none of these measures will show exactly the difference in the cost of handling the traffic within the state and the traffic that is common to two states, but nevertheless, they have certain values in railway operation. Train mileage is used as one of the features—one of the factors—in dividing the operation as between the passenger and the freight service. (I will follow my notes a little here.) But this measure could not be used to determine cost as between state and interstate freight service, or intratsate and interstate freight service, for several reasons: The trains that draw the freight handle both state freight and interstate freight, and the mileage of the two are not susceptible, of course, to a division. Again, freight trains move empty cars which yield no revenue, and the use to which, whether ultimately in interstate service or in intrastate service, it cannot be determined. Then again, trains are moved which are non-producing revenue trains, such as engines and cabooses, which must be moved possibly over a whole division light to get a train, because the traffic is not equally balanced in both directions. For these reasons, the problem of dividing the cost of operation between state and interstate traffic on a

train-mile basis would be impossible. Another measure used in railway operation is the car-miles, and in operating statistics they serve a very useful purpose; but here again, this measure could not be used to divide the expense between interstate and intrastate traffic, for the reason that the cars handle both classes of traffic in common. Again, the cars contain varying quantities of tonnage, and the relation between the expenditure of energy required to move the gross tonnage, which is the tonnage of the freight and the tonnage of the car, cannot be separated as between the revenue tonnage and the gross tonnage by any rule of car mileage. Then, the purpose for which the empty cars that are moved will ultimately be used, like in the train mileage, cannot be determined and the expense apportioned. The measure of tons is used by a railway and is of valuable information for the management of a railway. In station operation, in the payment sometimes of station labor, the tons handled is a unit, but in the movement of tons there is a difference in the cost because some tons will require more space, some will move a longer distance, and there are other items of consideration. As to the question of distance, of course the tons can be reduced to ton-miles by multiplying the number of tons by the miles moved, and this might apparently seem to be a fair basis for dividing the expense perhaps of the service given to state and to interstate freight. Ton mileage statistics are useful to the railway company and measure the efficiency of operation; but while apparently the factor of ton miles would solve this problem, an analysis of the conditions and the way the ton miles are made up, show that in the use of this unit in the division of expenses as between state and interstate traffic, would possibly give results as wide of the mark as would the use of train-miles or car-miles. If the ton-mile unit were adopted for this purpose we would have to assume that all commodities could be reduced to a common basis of transportation cost; furthermore, that a long haul and

a short haul could be made on the same pro rata of cost; it would assume that the efficiency of engines and cars was equal in all classes of traffic and would embrace in the cost of moving all traffic facilities that certain divisions of that traffic do not and can not use. Again, that basis of consideration would eliminate the different conditions that exist between railway companies and the different conditions that exist on divisions of the same railway. It would likewise exclude any extra labor cost incident to moving either the state or interstate traffic. The assumption that all commodities can be reduced to a common basis of transportation cost, fails to take into account the character, value and risk attached to their transportation, whether the traffic is moved in carload lots or in less than carload lots whether the loading and unloading is done by the owner of the freight or by the railway company; if the former, the owner of the freight would do the loading and unloading at his own cost, the latter would be done at the cost of the railway company. It is manifest to anyone who observes the operation of the railway that the merchandise and manufactured articles which we denominate as less than carload freight, for physical reasons, will not load a car anywhere near to its capacity. The cost, therefore, of handling less than carload freight bears heavily upon the railroad, not only in the failure to secure a full load of freight, or perhaps I might say, an average load of freight, but also in the fact that more cars are required to reach the equivalent of the average carload of freight and more switching is necessary in the yards to set the cars to the freight houses and to return them to the train yard, for this class of traffic than in full carload traffic. I would say that the experience generally that I have had is that this less than carload traffic will not reach one-third of the average loading of all classes of traffic per car, measured in tons. The cost to a railway company in the actual freight-house work, in the handling of less-than-carload traffic, is large because this

is a package traffic and each unit must be received and weighed and loaded into the cars and accounted for, it is more in the nature of an express traffic; while the commodity traffic, the single billing of the car completes the preliminaries necessary to start it on its way. With less than carload traffic, a car may require an infinite number of way-bills describing to whom the freight is consigned, of what it consists, what it weighs and the charges to be collected. In the ratio I have expressed of probably less than one-third of the average tonnage being transported in an l. c. l. car, this station expense is embraced in switching the same ratio of additional cars for an equivalent tonnage, and in the handling of this package freight, made up of numerous units as against a single unit in commodity freight and a single car. This expense of station operation, which is created largely by the less-than-carload traffic is a controlling factor in establishing the number of employes required and the expense of conducting the station. The ton-mile basis would bring the transportation of cattle and other livestock to the same basis of consideration as lumber or grain, and would put this number of cars of merchandise necessary to equal the equivalent in tonnage on a parity with one car of any of these commodities; say that the three cars of less-than-carload freight, which as described have been loaded by the railway company at its own expense and which contain in the aggregate the average loading of one car of all traffic, would put on the ton-mile basis the cost of transportation of the three cars of merchandise, of one car of any other commodity, such as lumber, grain, brick or cement. In livestock a special service is required. It is essential that the movement should be continuous and uninterrupted, minus, of course, the time required to feed the stock in transit in the observance of the twenty-eight-hour law. In these illustrations the character of traffic is shown to determine the care which must be observed in its preparation and movement, and its value determines the risk that the rail-

way company assumes. For illustration, in the handling of livestock or perishable freight, the railway company will be called on to settle claims which could not arise from handling any other character of traffic—claims for shrinkage, extra feed or lower market because of delay. In the event of a casualty, the derailment of a train containing twenty-five or thirty cars of miscellaneous freight, the damage that the railway company might be called on to pay for one car of merchandise might be several times that it would be called on to pay for damage to all the balance of the traffic in the train, because merchandise is fragile and naturally would suffer most under such circumstances. In that case it is possible that five per cent of the ton-miles in that train would bear ninety-five per cent of all the cost of claims paid for that entire casualty; that is, the claims paid to the owners of the property, the freight. State traffic necessarily is made up very largely of less-than-carload freight. It is merchandise or the stocks of the stores that are vended to the public throughout the state, and the expense of its gathering (if I may use the word) and preparation for shipment is so very much greater than that of the commodity freight and of its distribution within the state, which is done at the expense of the company, is so much greater than the commodity freight that a practical operating man uses this in forming his judgment on the relative cost of the two classes of traffic. The ton-mile basis of dividing the expenses of operation, even for railroad purposes, for its own purposes, would not show the railway company the cost of its operation, even in the state, applied to either state or interstate, and it would be equally useless in endeavoring to apply it to a division of the expenses of state and interstate traffic. In other words, I mean to convey that the ton-mile basis does not divide the expense of handling the various kinds of traffic between itself on a just basis comparatively; and if it fails in that respect it would fail as a basis for dividing the cost of operation between the two classes

of traffic, state and interestate. The ton-mile basis of dividing the expenses between state and interstate traffic would place a long-haul and a short-haul on the same pro rata basis of cost. From a practical standpoint, no one, I believe, will seriously contend that this is reasonable, certainly no operating railroad man. This would fail to take into account the terminal part of a railway company's expense which forms a large item in the cost of railway operation. As I said a few moments ago, the controlling factor in terminal organization is the number of times that the terminals are used. This causes the employment of locomotives and men and the investment in facilities which a railway company must furnish for assembling and disposing of its traffic; and, broadly speaking I would define this terminal expense as all of the stationary expense on the railway embraced within its transportation accounts, subject to the possible exception of the credit account, terminal facilities for which an arbitrary method has been prescribed by the Interstate Commerce Commission. State traffic must in all cases have two terminals within the state, and each shipment of state traffic is chargeable with the use of the terminals twice, in the beginning and at the end of the journey, while interstate traffic makes use, generally speaking, of but one terminal within the state. The gathering and distributing expense of both is attached to the state traffic while only one or the other attaches to interstate traffic within the state considered. But it does not follow that because the state traffic uses the terminals twice the ratio of use of terminals between state and interstate traffic is as two to one; the length of haul must be taken into consideration, because the use of the terminals will be made by state traffic in its various lengths of haul as many times as it is a multiple of the interstate traffic hauled. To illustrate: if the state haul averages 100 ton miles and the interstate haul averages 500 ton miles, then the ratio would be as ten to one, rather than as two to one, for the reason that the five state hauls of

100 miles each necessary to attain the one haul; in interstate traffic 500 miles would use the terminals five times in beginning the journey and five times at the end of the journey, a total of ten times. It is obvious that the short haul requires more cars to attain an equivalent of ton-miles with the long haul. There is no general difference in railway practice anywhere in the middle west or in the Mississippi valley to which this would not apply. The general railway practice permits forty-eight hours to the shipper of freight to load a car, and forty-eight hours to unload a car. This makes a delay of four days that the shipper has the right to use; possibly this is the law of Minnesota, I don't know; it is in some of the states. It is, however, the rule which prevails on all of the roads touching the west bank of the Mississippi river. Applying this fact to the use of terminals to which I have just referred, each of the hundred-mile hauls would be entitled to four days' use of the car standing, that is to say, while it was not in motion. Multiplying that by the five hauls, would show a loss to the railway company of the use of the cars in the short-haul service of twenty days as against a loss of two days in the long-haul service, which again gives a result of ten to one.

Q. That would be two days within the state?

A. Two days within the state. The loss of the use of the car, as illustrated here, the greater use, or the more times that the terminals are used, would be totally unprovided for by a method of endeavoring to apportion the expense of a ton-mileage basis. The ton-mileage basis would further assume that the efficiency of locomotives and cars is equal in all classes of traffic. The broad distinction in transportation conditions everywhere is the local and through trains. Only a sufficient number of through trains are moved, at least in the operation of heavy traffic, to move the traffic, while with the local traffic a railway must have a regularly established schedule service, and the trains must be run regardless of the volume of tonnage. In the

handling of through traffic, therefore, the potentiality of the locomotives in tonnage is very closely realized; while in local trains, as a general average, even during the crop-moving period, is with rare exception attained. The ton-mileage performance of a through train is an average of the number of tons it starts with multiplied by its miles to destination or to the objective point, while the average performance of a local train is affected in two ways: First, in the unloading of the package freight from the cars as the train progresses, lightening the load of paying freight in each car, and, second, in setting out such loaded cars as may be destined to points on the district. In one direction, the distribution of the initial tonnage before arriving at the objective point may be seventy-five per cent or even more; in the other direction, picking up carload commodities, the train may reach its objective point with a tonnage fairly equalling its rating, but it has not had this tonnage from its initial point, and its average of its performance of ton-miles will be very much less than of the through train. In my experience generally, the tonnage performance of local trains, measured by the ton-miles accomplished, will not reach more than fifty per cent of the through trains under the most favorable circumstances. Locomotives drawing local trains require more frequent repairs than locomotives drawing through trains, because they are not only doing what the through trains do—moving the trains between stations—but they also do the switching at local stations on the district, and might be called switching trains with equal propriety—traveling switching trains. In this switching in the interior movements, away from the main track, moving over switches and irregularly back and forth, the strain is greater on the machinery, the wear and tear is greater as a result, and repairs must be more frequently made than with locomotives drawing through trains where the movement is straight away and the momentum aids it. The efficiency of locomotives in local serv-

ice, in my judgment, based on my observation in the course of thirty-one years of experience, is not more than fifty per cent of that of through freight locomotives, while the maintenance cost is twenty-five per cent greater, based on an engine of the same class and weight engaged in the through service. In the matter of car efficiency we probably can get a little closer or make this difference a little clearer. The average capacity of freight cars on roads which touch the west bank of the Mississippi river differs very little, ranging from 31 to 35 tons per car. This is taking all of the freight cars of every character into account. The average loading or average tons of freight handled per loaded car mile will range in the same states between sixteen and twenty tons per loaded car mile. In the less than carload freight the efficiency of the car is not more than one-third of the average efficiency of all cars of traffic that the railway moves. Ex. 53-Ward shows the tons of revenue freight per loaded car mile on the Great Northern as 20.491 tons. Again, in a general way, state carload traffic, at least in its final distribution in local trains, moves over the road in daylight only, which entails a waste of time or a loss of use of the car which affects the movement and not the terminal loss to which I referred before. The ton-mileage basis of dividing the cost of operation between state and interstate traffic would not consider any of these inequalities any more than the use of the railway of that factor, to determine definitely, in dollars and cents, the cost of its own operation. The ton-mile basis of division of expense would embrace, in the cost of moving, all traffic facilities that certain traffic does not require. Such traffic as does not originate or terminate within the state, and which may be termed trans-state traffic, uses only a portion of the facilities provided by the railway company for the conduct of its general freight-business. That is to say, it is state traffic and interstate traffic in which some citizen of the state is interested, either in its shipping or in

its receipt. If the ton-mile basis of dividing expenses were applied rigorously, then this trans-state traffic would be charged with its tonnage proportion of the expenses of operating and maintaining the branch lines of the road over which trans-state traffic would move. With the maintenance and operation of industry tracks, house tracks, (where merchandise is loaded and unloaded), public team tracks, (where consignees or shippers unload or load their commodities), storage tracks, freight houses, where local traffic is handled, stock pens and the tracks leading to them, and the station organization, except that part of the organization that was incident to the straight-away movement, such as yard clerks and a minor part of the work of yardmen and engines—this class of traffic would not use the facilities enumerated, and if the ton-miles it represents were eliminated from the interstate ton-miles, then the interstate ton-miles would be reduced; and even on that basis the proportionate state share would be increased or the difference would be whatever ton-miles are represented in this trans-state traffic. On the straight proposition of dividing the cost of operation between state and interstate on the basis of ton-miles, this would at once change the factors to be employed, increasing the state proportion and decreasing the interstate proportion, but complicating the problem somewhat in separating the facilities that were used by the trans-state traffic from the facilities that were used in common by the state and the interstate traffic. In other words, it would be difficult, if not impossible, even with the known tonnage of trans-state traffic of this character, to determine just how much of the expense it should bear; but nevertheless it is a factor which an operating man would consider in reaching a conclusion generally as to relative cost of handling the two classes of traffic. The ton-mileage basis of expense division as between state and interstate traffic, would eliminate different conditions on different railways, and the physical differences on divisions of the

same railway. This at once puts the ton-mile basis of dividing expenses out of the question with the management of a railway. The conditions on different railways are different in respect to cost of operation, and even different on different divisions of the same railway. And this is due to the reason that every division of a railway, regardless of the density of its traffic, be it large or small, must maintain an efficient organization, and this overhead organization is a part of the expense to be taken into account of the division when the ton-miles are used as a divisor of the expense. It will be very readily seen that two divisions might require the same fixed expense of operation, while the density of the one might be 100,000 ton-miles per mile of road per annum, and the other 200,000 ton-miles per mile of road per annum. The difference in the cost of operations would be the difference that was reached by comparing the results of dividing the ton-miles,—by the division of the ton-miles and the dollars. Again, there is a difference in the topography which would be represented in the grade and alignment, which would make a difference in the cost of operation on a ton-mileage basis, with the division that had lesser grades and fewer curves. Again the ton-mile basis would exclude special labor cost incident to either local or through traffic. In addition to the extra labor cost in the handling of the less-than-carload traffic over carload traffic there is a difference in the cost of performing local and through service. There is no difference in this respect in the roads running west of Chicago and the roads touching the west bank of the Mississippi river, for the reason that these matters are adjusted with the labor organizations, and the basis of train-pay is generally the same—it is the same with the exception of some local adjustments. The wages of trainmen employed on local freight trains is higher than on through freight trains, and, as a general rule, because of the character of the work done, more trainmen are employed on local than on through trains. In a gen-

eral way, the cost of operation is increased by the damage done in switching, and this would apply to nearly all the conditions I have named in the short haul, where a greater number of packages are handled to produce the same ton-miles, and from damages that occur to these packages while being handled in the train. On account of all the reasons above given showing that the ton-mile basis of dividing expenses would not be a truthful factor to employ, the railway companies themselves have long since discarded that unite to determine their cost of operation generally. The unit is used, however, by the railways to determine the efficiency of their operation in the way of quantity of performance. This is not alone a net ton-mile basis, but a gross ton-mile basis and railway managers (and I have discussed this question frequently) do not measure the efficiency of the operation of one division with another on the ton-mile basis. It is used to compare the efficiency of operation of a division with itself, under similar conditions; that is, a winter month with a winter month, or a summer month with a summer month. It would not be used to compare the efficiency of operation of a division during cold weather with that of warm weather. And this is because of the known fact that no correct conclusion would be reached, because it is rare that two divisions of the road have precisely the same general conditions which must be necessary to make that comparison of value as showing cost of operation. Of course, having the expenses and the ton-miles on a division, it is possible so to continue the calculations as to reach a result in cents or mills or dollars, but the tons drawn—accomplishment—is a part of those statistics that are of value to the man on the ground. To my mind, the train-miles, the car-miles and the ton-miles, must all be excluded from consideration in the search for a basis on which to divide the cost of the expenses of operation as between state and interstate traffic. They cannot be adopted by a railway for dividing the expenses of their own traffic, even in the

state, as between commodities and service. This leaves the results of operation to be considered, and that is the earnings. The earnings as between state and interestate traffic can be ascertained, or at least measurably so; and from the fact that the rates must take into consideration character, value and risk attached to transportation of particular articles, the basis seems to be an effort to consider the inequalities that the other units mentioned do not. Traffic is classified between that which moves in carloads and less than carload lots, and articles of bulk and value are covered by different rates. While the revenue basis or the earnings basis on the ton-mile consideration would not give accurate results, and would not take into consideration all of the inequalities between the various classes of traffic and between state and interstate traffic, it seems to my mind more equitable to use for that purpose, provided that the observable differences in the cost of handling the state and interstate traffic, which are more quantitatively (if I may use that expression) than mathematically expressed, are added thereto. My view, or my opinion, is that employing the revenue basis for the purpose, considering that the state traffic costs, as a minimum, four times that of the interstate traffic, the basis would be a proper basis; assuming, for example, that on the ton-mile basis the earnings per ton mile on state traffic were as two to one on interstate traffic, considering the ratio of expense as four to one would double that ratio, would double that basis of two, making it four to one.

Q. From the facts before you in the exhibit marked 53-Ward and from facts disclosed by the testimony of Mr. Ward, are you able to form and express an opinion what is the relative cost of the state business in Minnesota as compared with the interstate business therein on the line of the Great Northern road, expressed on the basis of cost per ton mile, of product or of performance?

A. From the testimony of Mr. Ward and from this exhibit,

and from the known fact further that railway methods of operation differ very slightly on the railways touching the west bank of the Mississippi river north of the cotton producing states, my opinion that the cost of operation of state traffic on the Great Northern road would be, for the reasons I have given, also in my analysis, which are common in their application to all railroads, between four and seven times.

Q. As much as the interstate business?

A. As much as the interstate.

Q. Have you given sufficient consideration to the exhibit in the Northern Pacific case marked Ex. 80-Elliott, and the conditions attending the operation of that Company in Minnesota, as disclosed by Mr. Elliott's testimony which you have read, to express a similar opinion on relative cost between state and interstate in Minnesota on the Northern Pacific line, freight business?

A. I have read Mr. Elliott's testimony, and I have also examined the exhibit, and for the reasons given in my general testimony I should say that there was very little difference between the cost of handling state and interstate traffic in the ratio of between four and seven, on both of those railways.

Q. That is, the relation between state and interstate cost on both railroads is the same?

A. Practically the same.

Q. Here so far you have confined your statement to freight cost; is there a difference in the relative cost between state and interstate passenger business, there being a differenc in the average length of haul?

A. The long and the short-haul expense in the way of the use of terminals, as explained in my examination as applying to freight, would apply also to the passenger service. This would extend to the sale of tickets and the accounting features or the auditing features of the work, as well as the clerical station expense. If the average interstate haul was four times

that of the state haul, then there would be the ratio of expense attaching to the state service of four to one, wherever more than one employe were required to do the entire station work. The terminal cost of that service would also apply in the way of handling baggage; there would be two terminal handlings for each of the state movements, and if there were four state movements to equal the average interstate haul, then the railway company would handle a piece of baggage eight times as against handling it once within the state on the interstate haul. That is to say, two passengers enter the cars at St. Paul, one will ride 160 miles and the other 40 miles. They load their baggage—I am only using this as an illustration as anyone could, and apply it to any point in the country, and I presume that anyone would recognize the fact—after the train has gone forty miles it stops and one of the men gets off and his baggage is put off; another man gets on and his baggage is loaded, and at the end of an additional forty miles the train again stops and the same procedure is gone through again; and again, at the end of forty miles farther, that I believe would make the 160 miles, or four different passengers boarding and leaving the train, with their baggage loaded and unloaded, with eight exposures to hazards of personal injury and eight exposures of damage to the baggage and the cost of handling eight pieces of baggage, a sale of four tickets, and the accounting for four tickets as against the cost of loading one piece of baggage at St. Paul and the sale of one ticket. There are other reasons why the cost of handling state passenger traffic is greater than interstate which apply generally to branch lines in all of the states touching the west bank of the Mississippi river; that is, branch lines where the potentiality of service provided is not realized to the same extent as the potentiality of the trains engaged in largely carrying interstate passengers. There are the accommodations, but they are not utilized. Local trains must have the equipment, as a general railroad proposition, neces-

sary to meet the greatest demand upon the district at any point; say, for illustration, taking two points in Minnesota or two in Missouri, or anywhere, the number of cars that must be provided for that train is the maximum that will be used and may be used in the five miles or ten miles; this is particularly true of the more important towns where the trains will unload and fill up and distribute their passengers for a few miles beyond that town and run light perhaps until approaching another town of some importance. The average earnings per train mile for local trains is much lighter than on through trains, for the reason that they do not carry the same number of passengers per train mile. Those conditions are common to the operation of all railroads in this part of the country.

Again, the equipment provided for local passenger train service runs in daylight as a general rule, as against the equipment in the through service being continually on the move, and there is a waste to the extent of the hours that the equipment is idle. Then again, local trains, while they are scheduled to consume a greater number of hours between two given points than the through train, in reality, because of the frequent stops, must run even faster than the through train on the average in order to accomplish the schedule in the end.

Q. You mean run faster between stations?

A. Between stations.

Q. They average a longer time to make the aggregate distance?

A. Yes. And this affects expenses as to fuel and as to wear and tear. It is almost too plain a condition to state that the stopping and starting of trains cause greater wear and tear, and the wear and tear and strain on the draft-gear and equipment generally, than is caused to the trains while they are running. The difference in cost in operation between state and interstate passenger traffic would depend largely on the proportion of branch line mileage within the state.

Q. It is stated in a note to Ex. 53-Ward that about one-half of the mileage of the Great Northern road in Minnesota is operated as branch-line mileage; in the testimony of Mr. Ward the parts of the road operated as main line were stated definitely, and from that it appeared that somewhat more than one-half of the mileage of the Great Northern road in Minnesota is operated as branch-line mileage, and it appears that on page 4 of Ex. 53-Ward that the average haul of passengers within the state of Minnesota local was 36.8 miles, and interstate within the state is 133.8 miles. I would like to ask you whether from the facts which have been called to your attention by Exhibit 53-Ward and disclosed by Mr. Ward's testimony as respects conditions affecting this matter, you are able to form and express an opinion as to the relation of passenger cost for state business in Minnesota as compared with the interstate business in Minnesota.

A. I believe that I would be justified in expressing an opinion that it would cost at least fifty per cent more for state than interstate, and my reasons are these: the relation of the state haul to the interstate haul and the relation of the branch-line mileage to the main-line mileage; it is almost axiomatic among railroad men that on branch lines not more than one-half of the potentiality of the local train service can be obtained either in freight or passenger; that is to say, one-half of the service provided cannot be realized in use.

A recess was here taken until 2 o'clock P. M.

Afternoon Session.

Cross-Examination.

By Attorney General Young:

Q. You stated this morning, Mr. McPherson, that you had been a witness for the railway companies in the so-called Missouri rate case recently tried?

A. Yes, the Missouri Pacific and the St. Louis, Iron Mountain & Southern roads were parties in that case.

Q. You gave the same testimony in those cases that you gave here, did you?

A. So far as its general application is concerned, yes, substantially so; from the fact of my more intimate acquaintance with the detail of operation there was of course much more that I testified to in that case than I did here.

Q. But the substance of your testimony as contained in the manuscript from which you read today is the same, I presume, as it was there?

A. Well, that was not a copy of my testimony, no; it was merely my memoranda. It is, in substance, however, so far as it relates to fundamental operation methods and conditions that are common to all railroads, yes.

Q. You do not claim to have any personal knowledge of conditions which relate to the operation of railroads or railroad traffic in this state?

A. Not from direct observation, no, General; but from the testimony of Mr. Elliott and of Mr. Ward—

Q. Well, I just ask you for your personal knowledge.

A. Well, I was merely going to complete my sentence. I find that they are not substantially different from that we have in Missouri.

Q. You assumed all of the conditions to which you intended to apply your testimony, in this state, to be as outlined in the testimony of Mr. Ward and Mr. Elliott?

A. Oh, yes; yes, indeed.

Q. Your direct testimony, then, with that exception, would apply just as well, in any other case, as in the case now being tried; that is, it would apply to any other case where a railway company was contesting rates prescribed by a state, would it not?

A. The analysis that I made, General, would be applicable

to any condition of operation. I regard that as an analysis of the fundamental conditions that railway companies meet in their operation.

Q. And to be of general application?

A. And of general application.

Q. And taken as a whole, your testimony is intended to be an argument against the possibility of adopting any method of accounting whereby the relative cost of intrastate and interstate business could be ascertained?

A. Why, I should hardly dignify it by the term argument, General. It is an analysis, or merely a statement of the facts showing the impracticability, because of these conditions, of establishing any method of accounting to determine exactly the difference in the cost of the operation of the two classes of traffic.

Q. The railroad officials who have already testified in this case, have, as I recall, stated in effect that the only reliable information on the subject of the cost of the service must be obtained from railroad men of experience, who, because of their experience, should be regarded as qualified to give an opinion upon it. Do you agree with those railroad officials who so testified?

A. Yes, sir; it is in my opinion the only way to throw light on this subject that is of value.

Q. Inasmuch as the officers of states who are charged with the duty of exercising the power of the state with reference to the regulation of railroads are not as a rule railroad men of long experience, would it in your opinion be impossible for them to have any information that would be a safe guide for them to follow except as they may get it from these experienced railroad officials?

A. I think that the only way of securing reliable information is to obtain it from those who are familiar with all of the facts by reason of their long experience in the detail of the

business, whatever it may be, whether railroad or anything that requires scientific investigation.

Q. This particular branch of the railroad business involves all the receipts and expenditures of the companies which arise out of operation, does it not?

A. I should say yes, that is, the operation.

Q. Well, do you know of any other branch of the railroad business, or of any other industrial undertaking, which involves the receipts and expenditures of large sums of money as to which the opinion of men engaged in the business affords more reliable information than books of account?

A. I am not qualified to speak definitely of other business undertakings than that of railway operation. The railway accounts are kept in all particulars in the best way to show to the management the details of its operation, so far as it is practicable to ascertain those details definitely. With an independent line of inquiry of which railway statistics have not been kept and which for various reasons could not be kept, a particular inquiry could not be answered from the accounts, and it would then resolve itself into a question—I should call it a quantitative question—one of observing the quantities. because, after all, it is the quantity that we measure from observation.

Q. If it is necessary to know quantities, as you use the expression, with reference to the railroad business, covering a considerable period of time in order to qualify you to draw deductions, don't you think it would be better to keep that quantitative information that you refer to in the shape of a record than to try to carry it in your head?

A. It would, undoubtedly, General, if it could be done.

Q. Your position is that it cannot be done?

A. My position is that it is wholly impracticable to keep records in such a manner as to show the difference in the cost of handling even any commodity, let alone the difference between the cost of transportation of commodities as between that

that is entirely a state matter and that traffic that embraces two or more states.

Q. Well, do I understand your position, then, that it is impossible for anybody to know anything about that question of cost?

A. Other than from observation.

Q. Well, if you can't know it well enough to put it on paper, how can you know it at all?

A. Of course, to answer that might involve some argument, General. We could not in accounting record facts unless we know them.

Q. Well, if you know them, you can reduce them to the shape of accounts, can't you?

A. And we do know a great many things that are not represented in our accounts. In the operation of a railroad we have a vast fund of information that we believe to be accurate and reflective of the condition as to cost and otherwise which we cannot reduce to dollars and cents, but on which we have nevertheless the value of the opinions of the various men who are familiar with every detail.

Q. Well, now, without beating about the bush and indulging in abstract statements, it is true, is it not, that you don't undertake to carry in your mind any of the information with reference to the receipts or expenditures of your road; they must be put of record; it would be utterly impossible for you to remember them, wouldn't it?

A. Utterly so. That is, in their gathering together; we remember the final result.

Q. And you do profess to know, do you not, all of the elements which make what you call the short-haul business more expensive than the long-haul business?

A. Yes; but those are observation of quantity, and there is no way that we could reduce those items to a preparation of

accounts so that they could be made the subject of entry by an auditor.

Q. If you have any knowledge with relation to matters of cost or income that are reliable as a basis upon which to base or rest an opinion, they can be put down upon paper, can't they?

A. They are constructed from the returns of the agents and from the disbursements actually made of money, which are definite facts, and which are provided for in the methods of reducing the operation of a railway, so far as possible to accurate accounts.

Q. Will you kindly answer the question I asked you?

Question read.

A. I believe that I answered that.

Q. Well, I wouldn't know whether you answered—

A. As a matter of fact, it would not require an opinion, because it would be a matter of mathematical demonstration.

Q. You stated a moment ago, Mr. McPherson, that opinions of experienced railroad men with reference to this matter of income and disbursements in the two branches of your business, intrastate and interstate, were trustworthy and reliable, and that in your opinion there could be no accounts kept which would show those items of receipts and disbursements with accuracy?

Mr. BUTLER: I don't think his testimony covers receipts, General Young. I think you are in error in that part of your recital, are you not?

Attorney General YOUNG: No, I think not; I think it is substantially accurate.

Question read.

The MASTER: Answer it, if you can.

A. With the exception that the word "separately" should be entered there, that was my reply; it is this: that so far as the receipts from the railway company of money from the two classes of traffic any revenue that would be ascertainable, as I

believe I testified in my original examination, as to separating the cost and the disbursements as between the two, that would be a matter that would have to depend on opinions and would not be any account that is today kept or that in my opinion can be kept in the books.

Q. You know, do you not, that it is absolutely necessary for the railway company, if it is going to act intelligently in fixing its rates, to have this knowledge, at least with substantial accuracy? By "this knowledge" I mean the knowledge of the relative cost of the intrastate and interstate business.

A. In the matter of the establishment of rates or the building of rates I would hardly be a competent witness. My experience has been in the line of operation and not in the line of the traffic department of the road where rates are built. I have, and every other operating man in a position to do so has, undoubtedly attacked rates as being too low, and applied, after all, to that our judgment from experience along the lines that have been indicated in my direct testimony.

Q. Now, answer the question that I asked you.

The question was again read.

A. I don't know.

Q. In your opinion, could public officials act intelligently in fixing rates without having this information with at least substantial accuracy before them?

A. Well, I don't believe I would be qualified to answer as to what a public official would do or could not do, never having occupied a position in public official life. I presume, however, that it would be very much better if they had that knowledge, if it were possible to get it.

Q. Don't you think that if you and other widely experienced railroad men would devote as much time to devising some rational method of cost accounting to cover this subject as you have devoted to finding reasons why it can't be done, that some

progress would have been made toward getting at this information intelligently?

A. The men who understand all the details of operation, General, have made a great many efforts in that direction, but the problem is too vast, and it is, I will say, substantially impossible to accomplish it. And if it could be accomplished, if it were practicable, would not the Interstate Commerce Commission which has studied this matter, have prescribed a line to the railway companies for doing that?

Q. Are you asking me a question now?

A. Well, that was only an interrogative declarative sentence.

Q. Well, you know that when the government was founded, do you not, that the people assigned to the state governments jurisdiction over certain subjects, and to the federal government jurisdiction over certain other subjects?

Mr. BUTLER: I think we had better enter a denial of that statement as historically inaccurate, General.

Q. That the federal government has control over what is known as interstate commerce, and the states are supposed to have control over intrastate commerce; the railroad companies are amenable to the jurisdiction of each. Now, don't you think it reasonably incumbent upon the railway companies to so keep their accounts that they could not only know themselves, but could furnish public authority with such information on the subject of rates as would enable them to act intelligently in regulating them?

A. There is nobody, General, that would be so glad to know these costs as the railroad companies themselves, but to the layman in railroad operation it is perhaps difficult to explain why this can't be done.

Q. Well, either layman or professional in the railroad business, knows that if the railroads withhold this information, and especially if they unite in claiming that the information cannot

be obtained, that they have practically placed a barrier upon railroad rate regulation, have they not?

A. I would not like to be drawn into a discussion of that kind, but I would like to go on record here that so far as I know, with my own company, no information of that character, that the railway company has or it is practicable to get, has ever been withheld from proper inquiry.

Q. Well, you are not in the accounting department of your railroad, are you, nor have you charge of the accounting department?

A. These matters would not be a matter of accounts. They would be a matter of statistics and their preparation, after all, is made in the operating department. That is where it is gathered. The accounting department is merely a recording institution.

Q. You are not yourself an accountant, are you?

A. Not a practical accountant. I perhaps could not qualify as to journal book entries.

Q. You do know, do you not, that what is known as cost accounting in a railroad or in a field of industry has now attained to the dignity of a science and is used in all large industries for the purpose of furnishing the management with information as to the units of production?

A. I don't know very much about any other industrial field than the railroad. I have not been connected with any such institution, nor have I any interest in them that would lead me to investigate their methods. However, in the evolution of our general progress, it is reasonable to conclude that they have investigated their business as closely as they could.

Q. Well, do I understand you to say that you know whether they do or not keep a system of cost accounting?

A. I don't as a matter of fact, from my own knowledge.

Q. There are what might be termed units of transportation

as well as units of production, as in any other industry, are there not?

A. Yes.

Q. For the purpose of ascertaining the cost?

A. Yes.

Q. And it is true, is it not, that in order to form any intelligent opinion as to the relative increased cost of what you call the short-haul business over the cost of what is known as the long-haul business it is necessary to have some definite conception of the unit of cost in each?

A. That is reducible to an accounting demonstration, do you mean?

Q. I mean what I asked.

Mr. BUTLER: Well, he don't understand what you asked.

Question read.

A. I confess I don't understand the question.

Q. What do you use as a starting point when you undertake to form an opinion as to the relatively higher cost of short-haul business as compared with long-haul business?

A. I start entirely with the matter of observation and conclude with the results of that observation.

Q. Did you take the total volume of your so-called short-haul business and find the total cost of it in such a way that you could give the Court or counsel any idea of what might be called the unit upon which your calculation is based?

A. The average length of the haul, because the hauls themselves are all taken together, the average length of haul is determined very easily by dividing the ton-miles by the tons. That would be true of the state and the interstate business. From that step it is then necessary to apply observation. There are no further mathematical steps that I know of which are possible. As soon as we have determined the relative length of haul in state and interstate traffic, then it becomes a matter of observation as to what consequences in the way of increased

cost follow. Those elements of increased cost that follow, as I stated in my direct examination, are the more frequent use of terminals—

Q. I remember the things that you enumerated this morning, and I suppose the Court has them in mind, but it is not true, is it, that you could form an opinion as to the relative cost of the two kinds of business by taking the experience of a single day or a single week?

A. No, sir; nor of a single car; I can't conceive of a condition where the transportation situation as to a car or a ton of freight in either state or interstate traffic would be exactly alike, on another day, in another car, or another week or another year.

Q. Conditions are constantly changing, both from day to day and from week to week and from month to month, are they not?

A. They are changing, so far as exact details would come from a microscopic analysis; and in a cycle of time there would be a considerable change; but today it might be one condition, tomorrow another, the third day another, and the fourth day might return to substantially the same condition of today; but the exact parallel line that would be necessary in order to reduce that to bookkeeping could not apply on any of those days.

Q. You make up all of your computations as to profit and loss and as to expense and income, and in fact all of the details with reference to the physical affairs of your road, in fiscal years, do you not?

A. Yes.

Q. And it would not be possible to make up your accounts for very short periods; you must have some fiscal period of some considerable duration in order to get at intelligent results, must you not?

A. Yes, but that is only a compilation of shorter fiscal periods; it is only a compilation of results for other periods.

Q. But in order to form an intelligent opinion with reference to the relative cost of any branch of your business, you would want to know the very many fluctuations that would take place in reference to the business during some considerable period of time, a period of time of sufficient duration so that it might be regarded in your mind as an average period, would you not?

A. Yes, provided it is reflective; there would be innumerable conditions, however, to take into consideration.

Q. It is utterly impossible for any man, no matter how great a railroad man he may be, to carry all of these statistics and fiscal information in his mind, and he must refer to the records to see what they show, must he not, in order to reach a definite conclusion?

A. Yes; you refer to the results that show the general operation of the railroad, what has been accomplished and what expenditure?

A. Yes. If we can't have any accounts with reference to the cost of the service, if the statement of yourself and others that are interested is to be taken as conclusive that there can be no accounts kept upon that subject, and we have got to take your opinions for it and your opinions happen to be unfriendly to the reduction of rates, rates never could be reduced, could they, because you are the only ones who know anything about it and you would be testifying in your own favor without the possibility of contradiction?

A. It seems to me that matters that are known to practically every operating man of observation and experience are not open to attack of an unfriendly character; they are facts which can be made, and which I have tried myself to make perfectly clear.

Q. Now, if we were to assume, Mr. McPherson, that 1,000 miles of railroad ran through a country where conditions affecting transportation were substantially similar, crossing state lines as they are met, ordinarily there would be, during

an operating year, substantially the same amount of interstate and intrastate business carried on on each mile of that road; in other words, there is no particular portion of your road devoted to the interstate business exclusively and other portions of it devoted to the intrastate?

A. I should say in answer to that that there would probably be both state and interstate traffic carried over substantially every mile of that railway. There might not be on some branch lines.

Q. If there were no other rational method for purposes of comparison, it would not be entirely unfair to apportion the cost of doing the business on that road on a mileage prorate basis, would it?

A. I should say that there would be very much of an objection to doing that.

Q. Well, if our first assumption were true, that the amount of interstate and intrastate business would be about the same on each mile of road, then there would not be any substantial injustice in the proportions, would there?

A. There might be in that tonnage, four times as much terminal expense attaching to your intrastate business as to your interstate business.

Q. And it might be the reverse?

A. No, it could not be the reverse, for the reason that the state traffic is so largely made up of merchandise, and that is made up, in turn, of so many short hauls; and again, that is somewhat clouded by some of the long state hauls of carload traffic which would have the influence of diminishing the importance of the short haul. What I mean by that is this: that you may have a state haul of 125 miles of a carload of wheat, or ten carloads of wheat; those cars would give thirty-five tons of freight to each car; you would find by multiplying the distance hauled, say of 125 miles thirty-five tons, that you would get a very heavy ton-mile result from that carload of state traffic,

and it would take hundreds of shipments of five, ten, fifteen, twenty or twenty-five miles of package freight to overcome or to meet that single car of wheat and that the average length of haul would be changed were it not for the fact that you do get carload traffic in the state of a heavy tonnage. Now, in throwing that all together, you may have something that looks exactly alike; you have got so many ton-miles of state traffic and so many tons of interstate traffic, but this may have cost you, and probably has, four or five times to make that on a ton-mile basis what this has.

Q. I think you misunderstand me. I am not arguing that cost of intrastate commerce is not greater as an abstract proposition, nor to some extent greater than interstate traffic, and I am using that term intrastate for the purpose of this statement as synonymous with short-haul business (which I will afterwards refer to) but the things that you mention would be common to all of the road that I have assumed, and what you are demonstrating is that the intrastate business carried on on the assumed railroad would be greater than the interstate.

A. The expense of it.

Q. The expense, yes. We are assuming that it is the same quantity of ton miles. Now then, what I want to know is, would not the same conditions apply to all parts of the road, not arguing that the interstate business and the intrastate business cost the same, but the volume of each being the same on each particular section of the road, would not the same conditions apply all over the road, and if you ascertained the volume of your intrastate business and the volume of your interstate business and you have the total cost—

A. You have the total cost of your traffic, of your operation. Now, you might have several states on that thousand miles; you must have, because otherwise you could not have interstate traffic especially.

Q. The thing that I am trying to illustrate, Mr. McPherson,

(I don't know that I am making it very plain to you or possibly to the Court) is that a mileage pro rate division of expenses over a line of road would not necessarily be essentially unfair for the reason that supposedly the conditions are nearly the same, especially in a railroad running through an agricultural series of states; but I will leave that subject, first, for the purpose of asking you one or two other questions. You stated this morning that in your opinion the intrastate business of Minnesota was largely carried on local trains; do you know whether that is true or not?

A. "In its final distribution," I put into that statement, I believe, if the question was read. I mean by "in its final distribution" the retail part of it as against where it is peddled out to the stations.

Q. Now, let us see if we understand each other. Through business on a railroad is business that runs over at least one operating division, is it not?

A. Well, no, I wouldn't hardly say that was through business. I would say that any kind of business might be carried on a through train over one division, but it would not necessarily be through business.

Q. What do you mean by through business? Let us see if we can get at some comprehension of your meaning.

A. I would say, in a broad sense, that through business was interstate business, and local business was state business.

Q. Why do you say that?

A. Because it is really, after all, in railroad nomenclature, classification of those trains.

Q. Do you run trains that you call state trains and through trains that you call interstate?

A. No, we run local and through trains.

Q. Well, what do you mean by local train—a train that distributes freight between the extremities of an operating division?

A. A local train is a train operated over each district of the road, which distributes local freight for stations located on the district.

Q. What do you mean by "district"?

A. The district is the territory between termini to which that train may be scheduled.

Q. Are trains scheduled for less than an operating division?

A. Oh, yes, very frequently.

Q. Regular trains?

A. Oh, yes; local trains may be scheduled for only fifty or sixty miles, depending on the volume of work they have to do on that district.

Q. I am not talking about special or extraordinary trains; what I am talking about is trains regularly and ordinarily operated by a railroad company; freight is distributed—

A. A division may consist of four or five hundred miles. We have another and further division for operating purposes that we call a district.

Q. Well, you are the first witness in this case that has referred to this word district for the purpose of designating an operating division of a railroad. Do you know the operating divisions on the Great Northern and Northern Pacific roads in this state?

A. No, I have not given them any study, but I know in a general way that there is not a railroad that touches the Mississippi river on the west bank that is not divided into divisions, and, furthermore, divided into districts.

Q. By districts you mean ordinary engine runs?

A. I should say that a district was an ordinary engine run.

Q. We have been in the habit, in our want of knowledge of the subject, of calling them operating divisions in this case.

A. Well, I didn't mean to be pedantic.

Mr. Butler: Mr. Ward pointed out the difference, General Young, in his testimony, if you were here that day.

Attorney General YOUNG: I cross-examined him, but I don't remember it.

Mr. BUTLER: Well, either in direct or cross he named the divisions.

Q. Now, so-called through freight, as we are in the habit of understanding it, consists of freight that, for example, would be assembled at St. Paul and hauled by the Great Northern road over its first operating division westward from St. Paul, which would be to Willmar; would you call that through business?

A. Well, I don't know that it would make any particular difference what it was called; it was business handled in a through train; we might call it through business.

Q. And merchandise, for example, intended for some station between Willmar and the next operating division on the Great Northern line, would, according to the testimony of the officers of the company, ordinarily be hauled on a through train from St. Paul to Willmar; it would from that point be carried to its destination on a local train.

A. That would be the orderly procedure on all of these railroads, in order to give the greatest dispatch to the traffic, the most economic handling.

Q. We have been referring to that class of business as through business so far as the first operating division or district is concerned, and local business as to the division where it was finally distributed.

A. Well, I see no harm in—I see, rather, no objection to that designation of it.

Q. We have not been informed that any railroad runs trains from any point of origin to the state line in any direction, either through trains or local trains, but that the several railway companies do run their various trains from their terminals in the cities to the division terminals, and therefore there has been no method of accounting referred to here or any method

of division of commerce as commerce that is strictly interstate or intrastate; both kinds of commerce are carried on practically every train that runs.

Mr. BUTLER: General Young, have you in mind, in reciting the facts in that question, the testimony of Mr. Ward, in which he said that through trains ran to Seattle practically solid? The testimony of Mr. Elliott showed, I think, regular through trains to the coast. It is true that they change engines at the end of the engine runs but do not change the trains at all, or substantially.

Attorney General YOUNG: They do not always change the train; they run some trains that are changed at every division, and some trains that are practically unchanged from point of origin to the point of destination. The point I am getting at, Mr. McPherson testified that he classed his short-haul business as intrastate and his long-haul as interstate.

Mr. BUTLER: Well, I feared you might give by that question a wrong impression, and I knew you didn't intend to.

WITNESS: I was using that colloquially, as we do, when we talk about our local business we mean our state business; and our through business. We use just the terms that railroad men employ in a general way.

Q. In the state of Minnesota there is a very large proportion of the business done by local trains that is strictly interstate business, and a considerable proportion of business done on through trains that is intrastate; do you know what the proportion is?

A. I don't.

Q. Well, do I understand that you meant to classify business carried in carload lots over at least one operating division of a railroad or operating district, as you call it, as short-haul business?

A. Oh, yes, that would be short-haul; that is relative.

Q. Well, it would not, at least be business carried on a local train?

A. No, the state business of a railroad would be handled in a through train, probably to the nearest district treminal to that of its final distribution. That would be our practice, and it is the commercial as well as the railroad interest that it should be handled in that way.

Q. Do you think there is any particular difference between the relative cost of handling business which passes over two operating divisions or districts, and business which passes over one entire operating district or division?

A. Oh, yes. I suppose now you apply that to any kind of traffic in that train, and treat it as a train?

Q. Well, let us confine it for the time being to car lots. Does it cost any more to haul a carload of freight over the first entire division over which it passes than it does over the second entire division, assuming that it goes over two entire divisions in a through train?

A. Well, the terminal expense would attach to the point where it was prepared for forwarding.

Q. I mean for the straight-away haul, omitting the terminal expenses.

A. Oh, for the straight away haul there would be whatever necessary change were made at the end of the first division, the expenses attending it.

Q. The expense at the end of the first division would be terminal expense, wouldn't it, if there was any?

A. Now, that there may be no misunderstanding in my reply to your question, I will give my understanding of it: that you have a trainload of cars starting out from a definite point, running to another,—to the first district point, and that same train of cars is continued to the next district point. Now, as to the actual expenditure of energy for the movement of that traffic from one division to the other, provided the grade is the same, the alignment is the same, the weather the same, it would be the same. There are all those conditions to consider.

Q. But if there were any terminal service at the end of the first operating division or district, that would be added to the expense of the business over the second division?

A. I don't know as to that.

Q. Or at least that would increase the cost of a car requiring terminal service at the end of the first division over that of the car which required no terminal service there, to some extent, I presume, would it not? But outside of the terminal service there would be no difference in the expense?

A. If the conditions were identical in all respects. That must be with the same cars, however, General, because there would be an established tonnage that was not to be changed over the two districts and its relation as between net and gross must be exactly the same.

Q. Yes, and it would be different only to the extent that it differed in tonnage, by either increasing the size of the train or diminishing it at the end of the first division; isn't that true?

A. That would change the whole proposition, if a single one of the cars that originally started were changed.

Q. Well, I don't care about any exact mathematical deductions. What I want to know is, do you claim that in a haul of that kind greater distance lightens the expense, there being no terminal charge involved?

A. We would continue that train over twelve divisions, say, of one hundred miles each, and you would have a long haul; there would be substantially no terminal cost anywhere; the terminal cost proposition would be reduced to the minimum, and for that interstate traffic the terminal cost would be negligible, in other words, you put in your question almost the ideal condition. The ideal condition would be that a railway company could start from one end of its road a train of cars fully loaded (loaded to its tonnage capacity) with enough of those cars behind the locomotive to meet the potentiality of that loco-

motive, and carry that train straight through to the other end of the road—that is the ideal condition.

Q. Well, you are talking about something different from what I asked you about.

A. No, the condition that you pointed out is the ideal condition of moving the business over the two districts.

Q. I didn't say anything about the train being of sufficient size to exert all the potential energy of the engine; I just wanted to know whether there was any difference in the cost of the straight-away haul if the train was the same size on the second division as it was on the first, whether it exerted the full potential energy of the engine or not.

A. Well, a condition was assumed, as I understood you, that the train would continue through over two divisions. Now, there would be substantially no terminal charge between the two divisions, merely the cost of removing the caboose and adding the engine, which would be a small cost, a very small one.

Q. Outside of that you know of no additional charge, do you, no additional expense?

A. That would attend that haul?

Q. Yes. Now, all traffic, whether it be intrastate or interstate, (that is, substantially all traffic,) becomes before it reaches its destination a subject for distribution by a local train, eliminating now from the equation, business that might begin at one terminal of the road and go clear over to the other terminal, most of the interstate business would be carried over one or more divisions, and if destined for some point between two operating divisions would be carried from the nearest division terminal to the point of its destination on a local train to the point of destination?

A. On a through train?

Q. It would be carried to the nearest division point of destination on a through train and from there be carried on a local train to the point of its destination?

A. That would be the orderly course of operation.

Q. And it is the business carried out from some operating division or district for distribution between that operating division or district and the next one that is known as the business of a local train, is it not, speaking in general terms?

A. Yes, the final movement, the final distribution would be local, if less-than-carload freight.

Q. And the function of the local train is to make the distribution of the merchandise and also to assemble any traffic that may originate at points between district terminals and haul it to the nearest district terminal to be added to the through train?

A. Oh, yes, those are the functions of that train.

Q. And all of the expense of assembling that through business is charged to the local train that does the work?

A. No, there is no system of bookkeeping that charges it to that train.

Q. Well, it actually is work performed by that train and by the crew that is operating that train and is part of their expenses and of the expenses of the train that does the work, is it not?

A. That would be a matter measured only by observation, and there would be no recorded fact.

Q. But when that business was taken up by a through train and carried from either the terminal of the road, if it originated there, or from the point at the end of an operating division to its destination, the expense of the haul would be an expense charged to through business, so-called, would it not?

A. Again, I would have to say that there are no divisions of expenses as between local and through kept on the company's books.

Q. In other words, there is no allowance made to the local trains for the business they do in assembling through business on their respective divisions and bringing it to divisional points to be taken upon a through train?

A. No, books are not kept in a way to make any distinction as between the trains.

Q. And to the extent that there is expense in assembling that property, it is charged to the so-called short-haul business, although the shipment is really in essence a long-haul proposition?

A. Why, you wouldn't know. If it is interstate traffic it would become a part of the ton-miles that the interstate traffic was ultimately reduced to. If it was state traffic it would become a part of the ton-miles that the state traffic was reduced to.

Q. Now, all business coming into Minnesota from Chicago or from other points of origin beyond the state in less than carload lots is taken up, and if it is intended for a point of destination beyond the end of the first operating district of the road carrying it, is taken on a through train over that district or division, and from that point it is taken on a local train to its point of destination. Now, do you know what proportion of the business done within the state in less than carload lots is hauled over at least one entire division of either the Great Northern road or the Northern Pacific?

A. I do not, no. The question of the traffic coming in from Chicago or from without the state would be a local condition that I would not be competent to testify to.

Q. Assuming that the proportion of that class of business in the state was over fifty per cent of the business done on local trains, would that have any effect on your opinion as to the claim that most of the local train business was intrastate?

A. It seems to me, Judge, that that is hardly a question that I could answer. It is in the nature of an abstract question, assuming a condition that would be rather uncomplimentary to the business sagacity of the wholesale men and the jobbers of this state.

Q. Well, we are not here to question the business sagacity or

business success of the wholesale men, we are trying a rate case.

Mr. BUTLER: Well, Mr. Ward testified as I recall it, General, that the class of business to which you refer was relatively small and smaller than the less than carload lot shipments originating here in the Twin Cities and at Duluth.

Attorney General YOUNG: Well I will ask the witness a question that will clear it up.

Q. What percentage of the business done on local trains did you believe was strictly intrastate when you testified this morning?

A. I had no percentage in my mind.

Q. Why did you feel justified in saying, then, that most of the intrastate business was done on local trains?

A. I don't think I said that most of the intrastate business was done on local trains.

Q. I have got it so noted in my minutes; I may be wrong.

A. I think I said that most of the local business in its final distribution was handled by local trains.

Mr. BUTLER: I think that is what he did say, General.

Q. Well, practically all business in its final distribution is carried by local trains, isn't it?

A. No, only the less-than-carload part of it, necessarily.

Q. You understood, did you not, when you testified this morning about the volume of intrastate business done upon local trains, that this is a strictly agricultural state, producing large quantities of grain and livestock, and that those were the principal subjects of transportation so far as the products of the state are concerned, and did you know also that those products are always transported in carlots to market?

A. In my direct testimony on that I stated that in one direction the reduction of the initial tonnage that a local train started with might be seventy-five per cent or even more; that would be the direction opposite to that in which these products to which you refer would move. I had that in view.

Q. Did you know, when you testified, whether the bulk of the tonnage of this state comprising its intrastate business was carried in carlots?

A. I don't know the division between less than carloads and carloads of traffic of the state.

Q. Did you know that all that traffic transported in carlots (the bulk of it, rather) was carried on through trains, using the phrase "through trains" as applying to those that traverse with their entire load at least one entire operating division or district?

A. I didn't know; I don't know the proportion, but that would not affect my view, my opinion. It would not be a circumstance that I would take into consideration.

Q. You spoke quite vehemently in your testimony this morning as to the fallacy of the so-called ton-mile method of computing the cost of transportation; what do you mean by the ton-mile method?

A. I made rather a lengthy explanation of what I meant by it. I mean the tons of freight carried one mile on a railroad.

Q. And you intended to denounce that method as wholly unreliable as a basis from which to compute the relative cost of intrastate and interstate business, did you not?

A. Why, that is a pretty strong, word; still, I will stand by it.

Q. I mean disapprove.

A. I should say that it had no value for determining that question in reaching the truth.

Q. Do you know of anybody in this case that claims that it is the best method?

A. No; no.

Q. There are many other methods, are there not, for the apportionment of earnings and expenses?

A. Well, the question of earnings and expenses are two different questions.

Q. Well, expenses, then, just limit it to expenses—cost of service.

A. When I answered the question this morning, General, (Mr. Butler's question) as to what measures could be used or were used by a railroad for any purpose, I believe I covered them all; the train-miles, the car-miles, the ton-miles, tons, and the results, the revenue.

Q. And there would still be beyond those that you have now named the gross-earnings method or the mileage pro rate method?

A. You mean the road mileage; pro rata method?

Q. Yes. Well, I leave that out; there is the gross-earnings method?

A. Well, I stated the earnings as well as the others; that was the results. That would not be a measure of operation, but it would be the result.

Q. The mileage pro rate is used in this state for the purpose of making a division of the earnings for the purpose of taxation?

Mr. BUTLER: That is, in allotting to the State that portion of the earnings upon which it makes up four per cent taxes—

Attorney General YOUNG: It is purely arbitrary.

Mr. BUTLER: —from the earnings derived from the interstate business.

Attorney General YOUNG: Yes.

Q. You didn't think either one of the methods that you enumerated would be mathematically accurate?

A. No, I know from my observation that they would not be.

Q. They could not be mathematically accurate, could they, in view of the fact that there are so many of the items of expense that are unquestionably common to both kinds of business?

A. Between the state and interstate?

Q. Yes.

A. No.

Q. But in that same connection it is true, is it not, that either one of those methods might be approximately accurate, sufficiently accurate so that public officials and courts could use deductions reached in that way as a basis upon which to administer substantial justice between the railroads and the people in fixing rates?

A. No, I don't regard, from my observation and the study of these conditions, as I see them pass before me from day to day, that any one of those methods would give, of itself, a truthful division of the expenses between state and interstate traffic.

Q. By truthful you mean exact?

A. Exact or approximately exact, yes.

Q. Well, your opinion from all of the conditions that you have enumerated, and from all of the years of experience by which your judgment has been matured and ripened, is that the relative cost would be somewhere from four to seven times as great for intrastate freight business as for interstate?

A. That is my conviction.

Q. Do you think any possible method of accounting could be as uncertain as that? Which would the Court be justified in taking, four or seven?

A. In dealing with quantity you must combine different things in your mind. I endeavored in my testimony this morning to show that in some respects the loss of efficiency was ten times in interstate traffic that of state traffic; in other respects three times; in others, again, substantially four times. It would be hard to combine all of those factors and say exactly what number of times that would be. A man would establish in his mind a minimum and a maximum, and if he were fair he would probably apply as a result of his judgment the minimum.

The Master: I suppose the Court would take the minimum in the absence of other testimony.

Attorney General YOUNG: Well, I don't know any reason why the Court should not take the maximum as well as the minimum if he was going to take either.

The MASTER: I don't think it usually does.

Q. But if the expert upon whose judgment the Court is expected to rely can't come any closer to it than to say it is either four or seven, it seems to me that it argues the existence of a condition which is lamentably uncertain; don't you think it does?

A. It is substantially as well founded and as conclusive as any conclusion we can form from taking a number of things together—a number of unlike things—and reach a conclusion. Now, if we were asked to express mathematically what that conclusion was, we would hesitate about putting it in exact figures or express it in figures. Still the conviction is there in my mind that the minimum at least would be four times. Now, I know that there are certain expenses attending the intrastate traffic that are more than twice that much, more than interstate traffic. I would express myself reasonably and give the minimum of my views below which it could not go, and it might go more. There might be the changing quantities with reference to the various things that might make that fluctuate, but the minimum in my judgment would be four times.

Q. You base that, you say, on certain facts which you know with reference to the varying conditions affecting the traffic; if you had placed those facts of record somewhere, others could also have that knowledge and make a computation of and see whether or not you had reached a wise or just conclusion, could they not?

A. You can't put everything on record in the operation of a railroad.

Q. Well, on this subject you don't put anything of record, do you?

A. There is so much on a railroad that is a matter of ob-

servation and judgment, where those are the sole guides in shaping the acts of the operating officers and basing their conclusions, there is much more of that than there is matters of record, much more that is derived from judgment and experience and observation that shapes the action of the executive officers or administrative officers than from their records.

Q. There is nobody questions the value of experience, either in railroading or in any other line of human effort, and there is no doubt but what a great many of the things which go to form the policy of your road and determine how certain things are to be done depend entirely upon the judgment of the officials, but you don't undertake to keep your accounts in your head, do you, as to your receipts and expenditures?

A. No, we keep all of the accounts on the railroad as prescribed by the state commissions and Interstate Commerce Commission, and we can't keep any other accounts. There are certain penalties provided in the Interstate Commerce statute.

Q. What is the rule prescribed by the Interstate Commerce Commission with reference to this matter of the cost of service?

A. I don't believe I understand your question.

Q. You say that you keep your accounts according to the rules prescribed by the Interstate Commerce Commission, and then you call our attention to the fact that the law won't allow you to keep any others.

A. Well, those are the accounts that can be reduced to entries from operation. Those are the disbursements and for what they are made, and the revenue accounts are received from the men who collect the money.

Q. The Interstate Commerce Commission has required you, in other words, to keep your operating expenses a little more in detail than you were in the habit of doing it before, and that is the extent of the order made by the Interstate Commerce Commission with reference to your accounts, is it not?

A. Why, I can't say that they have ordered us to keep them

in greater detail than we did before. I believe I have had experience with some railroad operating accounts that were in greater detail.

Q. Well, at least they require you to keep them according to certain specific forms that they prescribe?

A. Yes.

Q. In reference to your operating expenses?

A. Yes.

Q. General operating expenses. They have made no order with reference to how you shall keep accounts with reference to the cost of intrastate business as compared with interstate, have they?

A. No; no.

Q. Well, do you know of any penalty that would attach to you for keeping such an account, do you, except the penalty that might result—

A. I don't want, General, to have you think that I am trying to dodge any question. As I said before, the railroads would like to have this information if there was any way to get it, but it is absolutely impracticable to make that a matter of accounts; that is, impossible to make it a matter of accounts; it has no place in accounting; it might have a place in statistics, but it is impracticable to get the information without the employment of such an army of a high-grade character of men, and after you have got something that purported, perhaps, to be that division of operation, you would still undoubtedly have to apply more arbitrary methods in order to apply it to this division of expenses. Now, let me illustrate this. I would like to answer that question in this way: suppose you take a train of miscellaneous freight starting out on the road, made up of thirty cars; a certain proportion in each of those cars would be paying freight, it would be revenue freight; a certain part of the weight would be the weight of the cars that would be different in each case, and the expenditure of energy necessary to haul

that train would apply equally to a ton of freight and a ton of car. Now, if any freight is unloaded from that car, as it progresses on its journey, you immediately change the relation of that particular car in that particular train; you have got a different calculation to make; if you set a car out, you have got another calculation to make, because the relation of state and interstate tonnage has changed on the train. You may have some empty cars in there, that you do not know whether they are going to be state or interstate, and you can't tell to what use they will be put and even though you had an accountant on each train or on each car that you sent out and he should ascertain, say, the cubical contents of that car, he might find that five or ten per cent of the ton-miles in the car occupied more space than fifty per cent of other ton-miles in the car of an equivalent amount. Now, there would be an intricate calculation in all those matters, and after you had determined the rolling expense in that way, if you could determine it, how would you apply it to the expense of maintaining your car and the expense of maintaining your track? There are so many computations, so many conditions that would come up, and this is only picking up a pebble or two on the threshold of this problem. Again,—

Q. There is nobody claims, permit me to explain, (it might save some time) we are not arguing that there is any possible method by which a mathematically accurate account can be kept of these common expenses. Your testimony, as I understand it, goes to prove that a mathematically accurate account could not be kept. Nobody claims that it can. If your illustration is intended to illustrate any other phase of the question, I would be very glad to hear it.

A. No, it is merely a thought that occurs to me in the repetition of that question, that the railway company could keep such statistics as would afford any constituted body charged with the regulation of rates the exact information that they could

employ on which to base rates. This was merely one illustration of the difficulties.

Q. The difficulty of keeping mathematically accurate accounts is perfectly manifest?

A. They are insurmountable.

Q. Nobody claims that that could be kept any more than a mathematically accurate account could be kept of the relative expenses of passengers and freight.

A. Now, I meant to add, that after this one train had been analyzed, you would have to analyze every other train, and after you had accomplished a whole day of such analysis, and you had employed some arbitrary methods in order to secure an application of these various things that enter into this problem, then you wouldn't have anything that would be applicable to the next train or the next car or the next day, or the next year or the next week, because it would be an ever-varying condition.

Q. That is elementary. What we are arguing for and what we contend for in this case is that there does exist power and capacity to make an accurate apportionment of these costs which are sufficiently correct to serve as a safe and just guide. If your theory is true, Mr. McPherson, railroads themselves cannot tell whether their intrastate rates bear the proper relation to the interstate rates in the same territory, except so far as their judgment is based upon mere general opinion?

A. Well, I don't know that I am competent to answer that question. I think the president of a railroad ought to answer that question. He not only is riper in his judgment, as a rule, but he has the benefit of the opinions of his entire staff.

Q. If the information on the subject that would be reliable is so difficult to get and so hard to digest and to co-ordinate, if it is true that any given railroad on all of its traffic is making an adequate income upon the investment, there is no one competent to say whether the relation between the intrastate rates and the interstate rates are proper or not, is there?

A. I don't think I am competent to enter into questions that are more or less perhaps semi-legal.

Q. Wouldn't that be the inevitable result of the condition which you have testified to with reference to this matter of expense, of the cost of service?

A. I would say, then, that it would come back, in any specific case, to the judgment of the operating officers of the road, formed entirely from their observation.

Q. And that the public would have to depend upon the fairness of those men to get at the ultimate fact?

A. I am not willing to subscribe, to answer that question in the affirmative.

Q. In the affirmative?

A. I say I am not ready to respond.

Mr. O'Brien: What does he mean by that—not willing to respond? Do you mean you don't want to testify to it, or that you don't know?

Witness: I mean that it is a conclusion drawn by Mr. Young to which I don't subscribe, but when it comes to a matter of giving reasons for it, that would be going into another field, that as I have testified here before, is one of rates and traffic and the adjustment of conditions in the various parts of the country on which I am not qualified to testify.

Q. Well, I just want to ask you this question: If the public and everybody who is concerned in the reasonableness of railroad rates have to depend in determining whether rates are reasonable or not upon the opinions of railroad officials, if there isn't very great danger that the railroads will give their testimony in their own favor on the question and to the detriment—

A. I believe, General, that railway operating men are relatively as honest and sincere and as careful of their good names and their conscience, is as responsive as that of any other class of men.

Q. Concede it, but are they any more so?

A. No, I wouldn't say that they are any more so.

Q. You know the law has established a rule which prohibits a man from testifying to a thing where it isn't possible to contradict him. This would be—

Mr. BUTLER: Is that statutory?

Attorney General YOUNG: That is statutory: If one party to a conversation has died, the other party is not allowed to testify to what the conversation was in his own favor, simply for the reason that it is impossible to contradict him.

Q. You would be creating a condition here which would be absolutely identical; the public would have to go to the railroad companies for information, it doesn't exist anywhere else; they couldn't contradict anything that the railroad officials would testify to, wouldn't you?

A. No, sir; because these conditions to which I have testified are such as any man of close observation could see himself and verify in a railway company's operation upon the ground.

Q. Now, your testimony, Mr. McPherson, on the questions as to which you have testified, would apply with equal force to all the roads of the state, would it not?

A. There are some details I have brought in here that were disclosed by the exhibits. I can't say, without perhaps seeing similar exhibits of the other roads, whether comprehensively that would be the case—

Q. Well, what do I understand your position to be on the subject?

A. —but the greater part of my testimony is applicable fundamentally to the operating methods of every railroad within the states that touch the west bank of the Mississippi river and which are north of the cotton-producing territory.

Q. What magic is there about the west bank of the Mississippi river that makes a boundary in this question?

A. There is none especially, except that generally the conditions are relatively the same, and when you get east of the

Mississippi river you get somewhat different conditions.

Q. You would say all territory west of the Mississippi river is in one district so far as these principles apply?

A. No, I don't say all west of the Mississippi river, because I don't take in the mountainous district; you get into a different condition in the mountains. I am speaking now of this central-west agricultural belt.

Q. You have been testifying to the two lines of road, both of which cross the mountains, have you not?

A. Well, I haven't been testifying to any facts except as to the relation between the character of the traffic in the state of Minnesota.

Q. This average haul of the interstate business amounting to something over five hundred miles includes the haul over the various mountain ranges that intervene between here and the Pacific; didn't you know that?

A. I presume that by pointing, from the end of the Great Northern west, you could get about where that average haul would be. I am not sure whether it would be in the mountains or touch the mountains or not.

Q. Did you have in mind the long portion of mountainous haul involved in the interstate business of these roads?

A. I am not sure that there would be any mountainous haul involved in this question; and if there was, it would not affect my testimony on these particular points. If it were all mountain it would not, the gradient would not affect it in any respect.

Mr. O'Brien: I understand that practically the testimony on behalf of the Complainants is all in. I am not saying this for the purpose of foreclosing any more testimony, but the problem is to adjourn to a time when we will be ready to go on with our case. We want some days to arrange the testimony on behalf of the Defendants.

Mr. How: I am in hopes that we can stipulate, in the Great Northern case, that the conditions, facts and circumstances attending the subject of passenger transportation are substantially the same as those testified to by Mr. Cleland in the Northern Pacific case and that the same general action was taken as was taken by him. I am in hopes, also, that we can stipulate, in both cases, that a certain exhibit which will be produced by us is an exhibit of the valuation of the Minnesota Transfer Railway Company which would be testified to in the same manner as valuations in the Great Northern and Northern Pacific cases have been testified to, and that the testimony of Mr. Morgan would be upon the same basis as his testimony in the other cases and obviate the necessity of going to exact proof upon those questions. Then, moreover, there are stipulations which I hope to prepare and submit with regard to the ownership of stock and of the demand made by the respective complainants in these Great Northern cases upon the board of directors and refusals as alleged in the complaint. I understand we are not to be put to formulate proof with regard to those facts. Apart from that, unless we have one more witness on general topics here, we do not now see why we are not through. Those things, however, we hope to arrange by stipulation, in both the Northern Pacific and Great Northern case.

The Master: How does the Minneapolis & St. Louis case stand?

Mr. Butler: I can bring that case to the same situation that these are in now by occupying a very short time of the Court. I shall require, however, some days to prepare to put in the testimony, I think.

Mr. O'Brien: If they are ready to go on with any part of their case Monday, we can commence with our case any time after Tuesday morning.

The Master: On Tuesday morning?

Mr. O'Brien: On or after Tuesday morning. We want until that time to prepare, and we hope to be ready then so that we can run the testimony through quite rapidly. Of course, I don't know how much cross-examination there will be, but so far as Mr. Morgan is concerned, his theories, his methods and his manner have been so fully explained in the Northern Pacific

case that it would not seem very necessary for a long cross-examination in the Great Northern case.

The Master: Well, gentlemen it is for you to determine.

Mr. O'Brien: Well, suppose we adjourn until Monday.

Mr. How: Let us adjourn until Tuesday.

The Master: Do you expect in the meantime to prepare your stipulations and to know, for instance, by Tuesday, what can be stipulated?

Mr. How: I hope to have those stipulations in shape to submit them day after tomorrow. I have had to get some information and that information is promised me tomorrow. With regard to differences and figures concerning the Minnesota Transfer Railroad Company between Mr. Morgan and our own witness, I suppose that no one will care to go through that testimony in detail, and if we can stipulate that our figures would be testified to on the same basis and theirs on the same basis as they have heretofore been testified to in the Northern Pacific and Great Northern cases, we can save considerable time.

The Master: If you should not succeed in getting some stipulation which can be read into the record here, then you may have considerable more testimony to put in?

Mr. How: Oh, then I will have to start in and prove the Minnesota Transfer Railway Company's valuation.

The Master: I would suggest that you be prepared with evidence, or with your stipulations, then, on the day to which we adjourn.

Mr. How: I will try to do that. I don't know anything about my witnesses, of course. We will have to put on our real estate witnesses and engineers and everything else and treat it as an entirely different system so far as I can see, if we are put to it, but I don't think there is going to be any necessity of it.

Mr. O'Brien: Why not have those ready by Monday? That will leave us ready to go on Tuesday.

Mr. How: All right.

Adjourned until Monday, May 17, 1909, at 10 A. M.

Federal Building, St. Paul, Minn., Tuesday, May 18, 1909, the hearing was resumed at 10 o'clock A. M.

PRESENT:

Messrs. How and Butler, Hale Holden, Thomas D. O'Brien, E. S. Durment and Charles F. Staples.

Mr. How: This is in the Great Northern case. It is stipulated that the General Passenger Agent, or other proper official or employe of the Great Northern Railway Company, will, if called to testify in this suit, testify with regard to the Great Northern Railway Company to the same condition of facts, to the same course of conduct, and in general to the same changes in passenger tariffs subsequent to the Act of the Legislature of the State of Minnesota of April 4, 1907, establishing rates for transportation of passengers in the state of Minnesota as were testified to in the suit of Shepard v. Northern Pacific Railway Company, both under direct and cross-examination, by Alexander M. Cleland, General Passenger Agent of the Northern Pacific Railway Company, and that the testimony of said Cleland in said suit of Shepard v. Northern Pacific Railway Company may be read in this suit with the same force and effect as if given as applicable to the Great Northern Railway Company instead of the Northern Pacific Railway Company.

Mr. O'BRIEN: That is satisfactory.

Mr. How: I offer in evidence Complainant's Ex. 89 in the Northern Pacific case, Ex. 54 in the Great Northern case and Ex. 32 in the M. & St. L. case.

Mr. O'BRIEN: It is stipulated that Complainant's Ex. 89 in the Northern Pacific case, Ex. 54 in the Great Northern case and Ex. 32 in the Minneapolis & St. Louis case, being one statement of the value of the cost of reproduction of the physical properties of the Minnesota Transfer Railway Company, as claimed by each of the companies jointly interested in those properties, as heretofore appearing in the record, the cost of

reproduction as claimed by those companies appearing in the second column of said exhibit under the heading Minnesota Transfer Company's Estimate, aggregating $5,609,887.49, may be received in evidence and that the witnesses heretofore called in one or the other of the three cases in which tstimony has been taken, or other competent witnesses, would if called at this time, testify to the making of the estimates contained in said Ex. 89 N. P., 54 G. N. and 32 M. & St. L., in the same manner, under the same circumstances and upon the same bases as has been testified with reference to the cost of reproducing the properties of the railroad companies, respectively.

With reference to the value of the telegraph and telephone lines or the cost of reproducing the same, as contained in Hogeland's Ex. 2 in the Great Northern case, the defendants other than the Railroad Company are willing to concede the following facts: After Ex. 2-Hogeland had been presented, Mr. Morgan examined the records of the Great Northern Railway Company and ascertained that there was included in the property listed under this particular head certain property which had been held to belong to the Western Union Telegraph Company in a decree entered in the United States Circuit Court for the District of Minnesota, dated November 25, 1907, in an action between the St. Paul, Minneapolis & Manitoba Railway Company as complainant and the Western Union Telegraph Company as defendant. The value of the property so adjudged to belong to the Western Union Telegraph Company by that decree was $195,452.18. An appeal from that decree is now pending, and if the result of the appeal should be to reverse the decree and give the title of that property to the Great Northern road. the sum of $195,452.18 should be added to the value which we now concede on account of the telegraph and telephone lines. That value, excluding the property so decreed to the Western Union Telegraph Company, according to Mr. Morgan's estimate, was, on June 30, 1907, $449,344.82. Since that time, it is conceded

that certain additions have been made to the property and that the value of that property, on June 30, 1908, excluding the property so decreed to the Western Union Telegraph Company, was $476.268.24. If, during the pendency of this suit, the property or any part of it above described should be awarded to the Great Northern Railway Company, in the action referred to, that fact may be called to the attention of the Master or the Court, and the additional amount added and the value of said item made to conform to that decree.

The MASTER: And if no decision is reached before the Master passes upon it, he will follow the decree which has been entered.

Mr. HOW: That is satisfactory.

It is stipulated in the three respective cases that competent witnesses will, if called, at this time, testify in support of and in establishment of the averments in the respective bills of complaint with regard to the ownership of stock by the respective complainants, and that the respective complainants in the cases have continued at all times to be owners of stock in the respective defendant railway companies, and further will testify in support of and establishment of the averments in the respective bills of complaint with regard to the demand made by the respective complainants upon the defendant railroad companies and their respective boards of directors and the refusal of the defendant railroad companies and their respective boards of directors and officers to comply with such demands as averred in the respective bills of complaint.

Mr. O'BRIEN: We will stipulate to those facts.

We have been furnished with a statement giving the history of the origin and object of the Northwestern Improvement Company, together with a list of the claimed assets of that Company and what purports to be the book value of the assets. That is the statement which was promised by Mr. Elliott and it is properly a part of his cross-examination. He being absent from

the city at this time, we desire to reserve the right to present that statement to the Master on his return when he is present and ready to submit himself for any further cross-examination with reference to that statement that may be necessary.

Mr. How: With the exception of perhaps one general witness, whose testimony may be applicable to all three cases, but who perhaps will not introduce any new element of fact into the case, and with the reservation of the right, after examination of the record, to pick up the loose ends, and with the exception of one or two pending stipulations, the terms of which have not been agreed upon, but which it is hoped we shall agree upon, we think we are through. The question of the reasonable rate of return—testimony upon that question can be taken at any time after the defendants are through with their principal testimony, and I don't know just how or when that is going to be taken.

Adjourned until Wednesday morning, May 19, 1909.

Federal Building, St. Paul, Minn., Tuesday, May 25, 1909, the hearing was resumed at 10 o'clock A. M.

JAMES J. HILL,

sworn on behalf of Complainants, testified:

By Mr. HOLDEN:

Q. Mr. Hill, you are Chairman of the Board of the Great Northern Railway Company?

A. Yes, sir.

Q. Prior to occupying that office you were for a number of years president of the Company, were you not?

A. Yes, sir.

Q. And you have been connected with the properties of the Great Northern Company in an executive capacity for about how many years?

A. Since the Company was organized; prior to that with its predecessor, the Manitoba Company.

Q. And that Company was organized about when?

A. Thirty years ago last Sunday. It was not organized on Sunday, but it happened to be the 23rd of May.

Q. That was 1879?

A. Yes, sir.

Q. During that period, Mr. Hill, a very large part of the existing lines of the System have been constructed, have they not?

A. Yes, sir.

Q. And of the lines that were in existence prior to 1879, practically all of those have been rebuilt at least once, and, in some cases, more than once, have they not?

A. Most of the lines that were in existence prior to 1879 have been rebuilt, not all; there has been a great deal of work done on them, but I would not call it rebuilding—which is heavier than that.

Q. And taking the System as a whole, it has been greatly enlarged and extended and improved during the period that

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you have had connection with the properties as an executive officer?

A. Yes, sir; it has been steadily improved and enlarged.

Q. Under these conditions, then, I take it that you are quite familiar with the conditions surrounding the properties, both in the state of Minnesota and the system as a whole?

A. Yes, sir; I am familiar with it, in all its parts, I think.

Q. Mr. Hogeland the chief engineer of the Company, offered in evidence, as a part of his testimony, an exhibit which was marked Ex. 2-Hogeland and which shows the cost of reproduction as he viewed it of the lines in the state of Minnesota, the first item of which is an item of $30,635,921, the present value of the lands in the state, terminals, yards and rights-of-way. That item, Mr. Hill, was taken from an exhibit introduced by Mr. Hayden, which is Ex. No. 10-Hayden, upon which it appears that the St. Paul terminals are valued at $8,041,686, the Minneapolis terminals $14,524,704. and the Duluth terminals $969,152. Without asking you to consider these exact figures, because the evidence is quite full already as to how they were arrived at, it appears that a considerable portion of the values of the lands in the state of Minnesota are embraced in the terminals in these three large cities. I would like to direct your attention to those terminal properties for a few moments. Do you consider the area involved in those terminals any larger than is necessary for the business of the Company?

A. No, sir; experience has shown that terminals become more and more important as time goes on and the business of the country increases.

Q. Why is it necessary to provide such large areas for terminal and right-of-way grounds in cities such as St. Paul and Minneapolis?

A. In order to handle the traffic as the cities grow, the demand for terminals increases.

Q. Is the ground in these cities, St. Paul, Minneapolis and

Duluth, that is available for railroad terminal properties, limited in its extent?

A. Ground in Minneapolis, from its natural position, is more available than it is in Duluth or in St. Paul. That is Minneapolis, the natural country upon which it is built, is more level, but railroad terminals in Minneapolis—the terminals that are convenient for the business to the center—are very difficult to obtain just now.

Q. So, from a geographical point of view, the amount of available space in St. Paul and Duluth for railroad terminal properties, is quite limited, is it not?

A. St. Paul and Duluth are both *very* limited. There are few cities in the United States, where, owing to the limitation of the terminals,—it seems difficult for me to realize how the cities are going to grow; when you get up to a certain point, beyond that the business has to miss them or go around them. In Kansas City—I have been there on two occasions looking it over, and the question of terminals is a very important one, one that they have made very much of, but it seems to me they have got to secure them across the river, across the Missouri, to the north side, where there is a large wide plain; but on the Kansas City side it is something like St. Paul. Seattle is another city largely like St. Paul. The city is built on a hillside, with what they call tide-flats at the lower part of the city, just as our marsh below Sibley street around about Sixth, very much the same, only there is more room out at Seattle.

Q. You spoke about conditions in Minneapolis being wider and more open, physically speaking; but for the convenience of the public is it not necessary that the terminals be located reasonably close to the business parts of the city?

A. It is necessary that the terminals—that is, it is an advantage to the public and a greater advantage to the road. There was a time when railroads would absorb drayage and different devices so as to equalize distance, but everything of

that load was abolished under the law, and rates must be the same. Then the only advantage is in the choice of location and convenience to the business centers. If a dray or team delivering goods can make two loads to one station while they are making one to another, and the rate is the same on competitive business, the line where they can make two loads will get the business.

Q. That applies both to delivery and receipt of goods at the freight house, and also to the team-track?

A. Oh, yes; and to all the business done by a railway. If you were traveling and going out 100 miles and the question was whether you would walk a half a mile farther to get a particular road, the fare the same and the distance about the same, it is then a matter of location. I might illustrate that by what the Pennsylvania road is spending in New York to get across the Hudson river to get in on Manhattan Island. Heretofore, the passengers would come over in a ferry; now they are going under the river in tubes, and they are spending an enormous sum there for passenger terminals to make them more convenient; I don't know how much, I have seen it estimated at one hundred million dollars and I have seen it estimated at as high as one hundred and twenty or one hundred and thirty million dollars.

Q. You mean by that to contrast the conditions which the Pennsylvania had of depositing their passengers on the Jersey side of the river in connection with the New York Central line, bringing their passengers down in the heart of the city?

A. Yes, sir; the Pennsylvania delivered them on Manhattan Island by ferryboat; the ticket carried them over to the Island.

Q. From your knowledge of conditions in St. Paul and Duluth, to what extent has the available ground been already taken up and occupied by railroads for terminal purposes?

A. Well, that ground that is most available and most valuable, in both Duluth and St. Paul, is all occupied. The last

piece, I think, was the Wisconsin Central, on lower Third street, on the north side of the track. They got a short piece there some years ago.

Q. What would you say as to the expense—I don't mean in dollars and cents, but generally speaking,—which any company would have to encounter in seeking to acquire anything like reasonable terminals in the city of St. Paul, at the present time?

A. To get terminals on a level, or on a level with the approaches, it would be an impossibility, unless you went back, as is being done now in the lower part of the city by the Soo; they are putting in terminals there in what used to be the principal residence part of the city.

Q. How does that compare in its level with the terminals of the Great Northern Company in the vicinity of the union depot?

A. I don't know; I should say there would be 35 to 40 feet difference. That is speaking without accurate knowledge.

Q. And the available ground anywhere near to the business center, the wholesale district of the city, has all been long since taken up and wholly occupied, has it not?

A. Yes, sir; there is a very limited amount of ground in St. Paul, because some of the lines approach from up the river and others from down the river, following the banks of the river; and the other access is down Trout Brook or Phalen Creek, both coming together in Trout Brook. Those are about the only means of access to St. Paul on the east side of the river, with any reasonable grade, because in West St. Paul the roads come in, and some of them are there because they couldn't get any facilities on the east side. The same thing was true when the union depot was built; there was only one place where all the roads could come together, and that is where the union station is now.

Q. Now, is that not measurably true in Minneapolis in the

fact that the land that is conveniently near to the business centers has largely been occupied for railroad purposes, and that to acquire further terminal property would require a location more remote from the business district and therefore less convenient to the public?

A. In Minneapolis the crossing of the river has made a physical obstacle,—the grade of the bridges and the number of streets crossed by railway and change of grades. Some years ago we wanted, while we could, to lower the tracks and get the highways over the railway. I think the case was in the court for two or three years. Finally we made a tin model of what we proposed to do, bridges and all, and the court ordered it done. The expense of crossing so many streets and taking care of the street problem (public travel), is very great in Minneapolis, so great that although the question has been up several times, and a number of people killed—only a few days since I noticed somebody killed there at one of the crossings on the St. Paul road—when the time comes for that road to separate the railroad grade from the grade of the public streets, the expense will be enormous. We tried to avoid the large sum or the large increase that comes year by year growing out of the growth of the cities by getting ours done early. We did, and I think the expense was something in the neighborhood of between two and two and a half million dollars for bridging and grading at Minneapolis.

Q. Mr. Hill, considering the terminal properties in St. Paul and Minneapolis and Duluth, will you say that those properties are reasonably well adapted and located to the needs of the Great Northern lines?

A. The location is very good, from the fact that it was the first railroad on the ground; the location could hardly be improved.

Q. Do you refer to each of the three cities in that answer?

A. No, I refer more particularly to St. Paul and Minne-

apolis. We did not get into Duluth until, I should say, twenty-one or twenty-two years ago. And there is a very peculiar condition there. There is a little fringe of level land lying between the foot of the hill and the lake shore, and that land is largely occupied. On the Duluth side, on a street eighteen or twenty feet above our track, we have a strip of ground that would, to a limited extent, accommodate the freight business, but that is simply as a point to receive it; you couldn't make up trains there, you couldn't do anything more than receive the freight and get it to some place where it could be loaded; and in Duluth, outside of some that is handled on the dock, most of the freight is carried over to Superior in transfer cars, and loaded there.

Q. What relation does the value of railroad property to adequate and sufficient terminals have, what bearing do those sorts of facilities have upon the value of railroad property in its ability to serve the public and also to economically move freight and make money of its own?

A. I have heard it very often said that railway terminals to a railroad are like hands and feet to a man. A railroad without terminals, and without good terminals, is at a very great disadvantage, and unless railroads are permitted under the law to make some arrangement or adjustment that will offset the difference in the terminals, they must be in great difficulty. You can cite one instance right here. Here is a road running through a good country—the Great Western—and it is short of terminals. As the superintendent of it said to me, many years ago, "We'll go broke because we are boarding around with other people and have no terminals of our own." That was Mr. Egan, who was then manager of the company.

Q. By that I take it is meant that the expense of buying a way, in the way of rentals, into the business portions of a city, is a very burdensome expense on the railroad that does not own terminals?

A. Well, they are both; the right-of-way to get into the city is part of the terminal. I don't mean that it is the station ground, but it is a part of the terminal. If you ran to a city, or to the neighborhood of a city, and stayed out a mile or a mile and a half, you would not be in a position to compete for the business. This matter of approaches is a rather curious thing. Certain lines have come from the Minnesota valley up the river, other lines from down the river. All the rest, in the first place, have come down over our tracks. We have accommodated them until such time as they could get their own right-of-way; and outside of the Milwaukee & St. Paul and the Great Western, I think every road that has gone into Minneapolis has gone, in the first place, over our tracks until they could get some facilities of their own. Take the Minneapolis & St. Louis, they did; the Soo did not; the Northern Pacific did; the Omaha and the Northwestern, the St. Paul & Duluth, all ended over on the West Side, near the junction; and so it was, all down the line.

Q. How is the public interest affected in the fact that a railroad has commodious and convenient terminals, or the want of them, in the manner of handling and making delivery of freight as well as passengers?

A. That is a broad question. It applies to this particular locality, or, may I ask, in a general way?

Q. I think I should like to have you treat it broadly; illustrating your ideas by this locality, if you can, and treating the subject broadly.

A. Well, take it here. There are a number of lines coming to St. Paul—take the Taylor's Falls, (originally the West Wisconsin, subsequently the Omaha,) and the Wisconsin Central and the Northern Pacific and the Soo Line over the Northern Pacific, and the Lake Superior—they all came down Trout Brook, apparently no other place for them. If they could not get into the business part of the city, the people who could help themselves by more convenient service would do so, and they would lose the business; those who were compelled to use the

railway would be at great disadvantage. And then the growth of the business of the country has got to a point where the question of terminals becomes very important; for instance, in Chicago, I remember (I think it was last summer, may be prior to that) some particular work that was being done at a forge, it took longer to get the material from the railway terminal in Chicago to the forge than it did to bring it from Harrisburg to Chicago. That is not an uncommon occurrence. Railway terminals are making and unmaking cities, because the railway yard is usually of more importance, and handles more tons, than does the harbor. For the purpose of illustration, in St. Louis, in 1907, I think the official figures show 48,000,000 tons of freight handled in and out of St. Louis. Now, St. Louis has from ten to twenty feet of water for nine or ten months and from five to ten feet the rest of the time and out of the 48,000,000 tons that came in and went out of St. Louis, only 79/100 of 1 per cent went by river. Out of over eight and one-half million tons of coal coming into St. Louis—you would think with ten to twenty feet of water, if anything could move, coal could—I think 140 or 150 thousand tons only, out of eight and one-half million tons of coal, came by water, and out of a million and a half tons that went out of St. Louis not one ton is recorded as going by river. I speak of that to show that, where we estimate the value of harbors and the depth of the water in the harbor and spend so much money for it, the great harbor is in the railroad tracks. Now, at the head of the lakes, I am not sure but Duluth and Superior, in 1907, handled more tons than any other city in the world, but every ton of that had to come through a yard, it had to be brought there by a railroad. I think the accurate figures would show that Duluth and Superior, the head of the lakes handled more tons than was handled in Hong Kong, or London, or New York, and did it in eight months while the others took twelve months out of the year. I might illustrate further, because it is fresh in my

mind,—in the fall of 1907, after the panic set in, and the grain crop was started and well under way down the lakes and ships ready to carry it, we were notified that all the roads in Buffalo were blockaded and could not receive any more grain for two weeks. We asked how much they could receive at the end of two weeks; they didn't know that they could receive any, but they did know that they couldn't receive any for two weeks. It was a difficult situation. The farmer had worked for a year to get his crop ready, and there were about five or six weeks of open water in which to move it, and they were so congested and blockaded with business that they couldn't move it. The Secretary of the Treasury was in New York trying to help get gold to America to quiet the panic, and the wheat that was being exported was an important item. I both wired and wrote, and my letter went to Washington, and the Secretary of the Treasury told me he "borrowed" the Interstate Commerce Commission for a week and raised the blockade to the extent of getting six or seven hundred carloads a day received in Buffalo. Well, now, for the want of terminals in Buffalo—And while I speak of the want of terminals Buffalo has an enormous mileage of terminal tracks, some years ago, (I think twenty) Mr. Chinook was called here, he had been chief engineer of one of the roads out of Buffalo, he told me they had then over a thousand miles of terminal track in Buffalo. How much has been added since I don't know, but it was for want of track that they got crowded and blockaded and could not handle the business, though I think there are seventeen tracks leading east out of Buffalo. I don't mean seventeen railways, but the equivalent of seventeen single tracks, counting all the tracks, and they could take six or seven hundred cars a day, which would not be more than a good train for each railway. Well, if we had not been able to raise that blockade there the farmers would have had to hold their grain here all winter or have it go forward by rail; and, as a matter of fact, the buyers were beginning to buy when that

blockade was fairly established, and they were beginning to buy on a spread of fourteen and fifteen cents a bushel. Now, that illustrates the question of terminals.

Q. Well, then, Mr. Hill, taking into consideration the question of the relative value of the Great Northern terminals in the state of Minnesota to the value of the lands as a whole, would you consider that it would be just and reasonable to estimate the terminal properties of the Company in the state at such a proportion as Mr. Hogeland's and Mr. Hayden's figures seem to bear to the total of the whole figures?

A. Well, I have not examined critically the exhibits, but I know that it would not be a question of price, it would be a question of whether you could get them at all.

Q. Now, passing over that, perhaps for a moment, another considerable item in this exhibit of Mr. Hogeland's is the cost of grading lines in Minnesota; and it has been suggested by other witnesses that there are perhaps in the state of Minnesota peculiar or difficult conditions in securing a finished and permanent roadbed for the track and in maintaining such a roadbed; what is your knowledge on that subject?

A. Minnesota contains a great many lakes and marshes. Some of the marshes are supposed to have been lakes that have dried up, and they might have,—a good many bodies of water have dried up. I suppose that some of us may remember that at the Minnesota Transfer there is a marsh on the north side along or across which the Great Northern track is built. That used to be a lake that I think they called Marshall's lake. I have seen white-caps rolling on it. Now, from the fact that we have a great many marshes and sink-holes and wet material in Minnesota, (not all, but a large amount of cut and fill, the same thing applies in Northern Wisconsin,) the expense of building and maintaining and keeping a road up to a proper standard of maintenance is heavier in Minnesota, particularly in the northern part of the state, than it is in any ordinary prairie country.

Q. What has been the experience of the Company during your long connection with it in this state in the matter of the quantities of earth and material that have been required to bring the roadbed, generally speaking, into its present condition and to keep it in its present condition?

A. Well, you could commence right at the station in St. Paul, and you could go to Minneapolis,—I don't think there is a man living that could identify a single yard of the original construction. Mr. D. C. Shepard, who lives here, was the chief engineer during original construction. I think he has told me that he could not identify a yard of it. Then you get to the university, there is an old bog there—they used to call it Rollins' swamp. That had to be taken out and two or three feet of rock put in to make a bed, and then fill on top of it and a big masonry and cement drain or sewer built to carry the water off. Quite a stream of water runs down there by the university along the track on the left-hand side going west. Then when you get over to Minneapolis on the west side across the Bassett's creek—they used to think that there was no bottom to it, but by hauling and filling and hauling and filling for years, we have got it so that it doesn't sink any more. Then up in Oswald's farm is another place, and another up on McNair's place. I think the McNair sink-hole had a 125 feet sounding, and I know one west of that where we could not find bottom with a reasonable sounding rod, and we spliced the piles; 120-foot piles wouldn't find the bottom, and I bought the timber from McNair on, I think, ten acres and piled that in for a grillage, and then we hauled material there all one winter, and I think we have brought that up to grade seven or eight times, and now the settlement is very much less than it was, but there is still a little settlement, it has to be brought up every year or two. Then, going on up by Crow river, there is a sink-hole, and there is another one up between Clearwater and St. Cloud. And coming back to Minneapolis, at the Cedar Lake yard, the

original estimate, I think, was 160,000 yards, and we have put in about 800,000 yards and now there isn't any more above the surface than would show if 150,000 or 160,000 yards had done the work.

Q. What is the character of material up in the northeastern part of the state, in the vicinity of the head of the lakes, for building a grade?

A. Well, it is wet, and there is a great deal of red clay. When the line was built from Hinckley to Superior, in place of using ordinary shovels they used scoop-shovels, on account of the wet.

Q. Will that kind of material stand in a bank?

A. Oh, that material would run about like batter. We have in a dry time had a drain cut, tried to select a place where the material was reasonably dry, and have made some fills with it, but it would usually take a slope of two and one-half or three to one and they would have to be covered with some other material and would have to be covered deep enough to prevent the water from soaking through. At the crossing of the Nemadji river we tried to fill the bridge to the trestle and did fill it about half of the way, and then we found, five or six hundred feet away, that it would begin to push up forest trees and begin to tip over on account of the displacement from the weight of the fill, and that has been allowed to remain to see if it would not find a resting place, and then we would go on and gradually fill it up, as we preferred to have it filled with a solid embankment rather than to have a trestle. There are very bad places on the way from the lake to Carlton and west of Carlton. On the way from Carlton and Cloquet we bought what they called a grade of the Duluth & Winnipeg Company, and we had to abandon it, and build it over, the greater part of it, and had to haul the material by work-train. The local material at the side was black muck, on a foundation of boulders.

Q. Is that material something in the nature of peat, will it burn?

A. Not there, but farther west there is an immense peat-bog, (I think it is where we cross,) that is thirteen miles wide. We cross it at the narrowest place. There is what we call "the Island" in the middle of this thirteen-mile strip that is sand, but that is all peat that will burn; and between Hinckley and St. Cloud that line crossed some places where part of the embankment was made of peat—it was the only thing to make it with—took it from the sides—We had to cover those peat embankments or embankments where part of the material was peat, to keep them from burning up; they used to take fire and burn. I saw, within three days, to the left of Rice street, going out, where the peat had recently been on fire and burned a hole in the ground. We have had fires in the embankment on the line between Milaca and Hinckley in early days, several times, and sink-holes.

Q. Are there any such conditions on the Willmar line, over in the other part of the state?

A. None of peat.

Q. As to swampy conditions?

A. Oh, yes, there are sink-holes, and quite a bad one beyond Long Lake and in beyond Maple Plain. All big fills will settle more or less; the softer the material under them, the greater the settlement will be. At the crossing of the Pomme de Terre river, just this side of Morris, after we improved the road, after we cut down the grades (we could not perpetuate the old errors and cheap location and we straightened the track of the line and crossed the river in a new place and made a heavy fill,) that fill has settled and even now it is below grade, but it has settled many times, and has been brought up and each time the settlement is less and finally we expect it will be permanent.

Q. You have a number of lines, or a considerable mileage, in the Red River valley. What is the value of the local material there for building a satisfactory grade?

A. Well, the geologists tell us that the Red River valley is the bottom of Lake Agassiz. At any rate, it is an alluvial deposit or decayed vegetation on top of the alluvial. It is very difficult to maintain a road, in fact we don't try to. The Northern Pacific built the Casselton branch—on the Dakota side, which would be similar to the Minnesota side, the only difference being that the Minnesota side would have more streams and more water. That line had been built when we bought it, I think seven or eight years, and the lowest place for the water to run was between the rails. We had to take up the track and throw it off and regrade and haul in dry material from other places, and, practically, I don't think anywhere between Glyndon and St. Vincent there is any of the old grade left that came out of the ditches each side of the road; it sunk and has gone away and the material that is in the road has been hauled there, some of it long distances, some of it I think has been hauled seventy or eight miles.

Q. Mr. Hill, have you any knowledge of the number of meandered lakes that there are in this state?

A. Only by what is reported.

Q. Of course, it would only be by what is called common or historical knowledge?

A. Or what is published; you see it estimated that there are seven thousand lakes, and some more enthusiastic people have called it ten thousand.

Q. What is meant by a "meandered" lake?

A. Well, a lake that, when the Government surveys were made, the short of the lake was shown as water.

Q. That means, therefore, a considerable body of water?

A. Yes, sir.

Q. And, therefore, whatever the exact number of meandered lakes may be, it does not attempt to cover all of the bodies of water in the state; those that are too small to be dignified by having the lines meandered are probably much larger in number, are they not?

A. Oh, I should say, without knowing, (just making an estimate,) that taking those that are two or three hundred feet across, they would outnumber the others two to one, maybe higher; and some of those small ones are very difficult problems to handle in building a road. I could recall one, this side of Fergus Falls, that we had to abandon. There was a little ridge between it and the Pomme de Terre river, and we tunneled through to drain it and lowered the water in the lake some sixteen feet and had piles driven across it, but the piles broke through, there seemed to be a crust, and we had to abandon it, and had to abandon some heavy work approaching it, and we built a very heavy piece of work to get around it. That is just this side of the Pomme de Terre river, between Dalton and the Pomme de Terre river. The old line is there, with the piling in the lake, and the new line, the one that is used, is there also.

Q. What large water-courses have their origin in the state of Minnesota?

A. The St. Lawrence (the farthest west of the waters flowing through the St. Lawrence) has sources in Minnesota; so with the Winnipeg river; the Rainy Lake river, which is the boundary between Canada and the United States; the Red River of the North, and the Mississippi. That is practically all east of the Rocky Mountains, except the Missouri river, until you get up as far as Churchill, on the Saskatchewan.

Q. Coming back to the vicinity of St. Paul for a minute, Mr. Hill, how did the original line of the Great Northern road—the St. Paul & Pacific, I think it was—get into the city of St. Paul?

A. It came down through the valley of a little stream that ran back of the bluff until it reached Trout Brook and then it came down the Trout Brook valley.

Q. What was the condition of the surface of the ground at the entrance of Trout Brook valley in those days?

A. Well, it was very low at the entrance. The first shop

stood on a fill that was built on the swamp. It was not very large. The shop and roundhouse burned down one day, and it was followed by the construction of the shops on Jackson street. We thought they were large enough, but they were followed by the construction on Dale street, three times as large.

Q. Where was the terminus of the original line in reference to the present union depot?

A. Down on the Mississippi river, near Dayton's Bluff. The first freight station was between the Mississippi river and Third street, on a line that would be the continuation of the present line, coming from Seventh street down to Third; it ran out there at the mouth of Trout Brook. I remember the first flour that was shipped from St. Paul. I went down there and they had fifty barrels of flour in the station and I got it on five drays, and brought it up and put it on the steamboat, and that was the first flour that I know of going from Minneapolis or St. Paul.

Q. About what year was that, Mr. Hill?

A. Well, it was before 1864; just what year it was I couldn't say, I could look it up and possibly find in the files of the newspapers, what year the road was finished.

Q. Where was the steamboat landing at that time in reference to the present union depot building?

A. The steamboat landing was nearly all west of Sibley street, at what was known as the Schurmeier warehouse. The Bass warehouse stood where the front of the union depot is, and that was a frame building, fronting on Sibley. I have checked corn off the steamer Fall City with her stage planks pushed into the big door of that warehouse; she would be lying about where the boat would lie from the gates or the end of the track well up through the station.

Q. You mean the present station building?

A. Yes.

Q. And the old St. Paul & Pacific tracks came around from

Trout Brook up to that point on a long trestle, did they not?

A. Yes, sir; they came around on a high timber trestle from near Third street.

Q. Generally speaking, then, if I understand it, the whole level of that part of the city and the ground that is now occupied by the Great Northern tracks and union depot tracks and the Milwaukee and St. Paul tracks on the outside, were all at a much lower level than at the present time, and to a certain extent covered with water and the bank of the river was much closer in?

A. There are photographs in existence of the conditions at that time, and there was a slough there through which the logs were carried to Prince's mill. I have shot sand-hill cranes, I think about where Broadway crosses the track. Take, for instance, the Great Northern freight house on the corner of Broadway, under the office there is a clear story, of I think ten feet, and below that story the foundations are built on a fill of eight or ten feet.

Q. What are the conditions about the main office building in that regard?

A. You mean the Company's general office?

Q. The general office building.

A. That is built on a foundation of piles from fifty-five to sixty feet long, and I think they are driven ten or twelve feet in the solid ground. The rest is black mud. If the black mud was washed away, I think that building would stand from forty to forty-five feet on a lot of timbers, and it is built of very heavy stone and brick.

Q. Now, Mr. Hill, summing up all of these conditions in the state that you have been touching on, and from your general knowledge of railroad construction in the western country, would you express the opinion as to conditions in Minnesota compared to conditions in other states, such as Iowa and North Dakota? I mean, conditions of difficulty in construction and

maintenance of a roadway in Minnesota as compared to those conditions in such other states; are they more or less difficult or more or less expensive than in this state?

A. Well, southern Minnesota is not very different from Iowa. As you get north into the lake country, that is, what the explorer Nicolay called "the Undine Region"—I think that is the name he gave it—you get into a country where there is more water. Now, that does not apply between Minneapolis and St. Cloud on the East Side,—that section is sandy, and reasonably free from water—but you get farther over, into the timber, and you get into swamps and morasses; and when you get west of St. Cloud the same statement applies. I know that, just east of Sauk Center, our engineers thought we ought to fill a marsh because they had sounded some twelve or fifteen feet and found bottom. We did fill it, and one morning word came that the fill had gone out. A freight train was passing over it—I think there were three cars that we have never seen since! There was a pond of water where the fill had stood, and we had to bridge it. But when you get into North Dakota out of the valley of the Red river, there is much less surface-water, the country is dryer. In some places the quality of the clay is more like it is in the northern part of the state; over towards Superior and east of Cass Lake the clay will wash easy, in fact it is difficult to keep it in an embankment until the embankment is sodded over. On the line between the head of the lakes and Crookston there are a great many sink-holes, a great many marshes, and some very bad ones.

Q. Has the maturity of the road been reached in this state or a stage where sags have quit appearing in the roadbed, or are those conditions still persisting?

A. They are not as bad as they were. Some of the smaller ones I think are cured, many of them, but the larger ones require constant care, and the sag or depression must be brought up to grade again in the course of a year or two, and in some

cases, where they are nearing a permanent condition, it would be three years before they have to be brought up again.

Q. Well, is there any such thing with railroad lines, such as those in this state, as their reaching a completed and finished condition, or do they constantly require attention in the way of work and additions in material?

A. All railroads, made of material that they have to use, earth and gravel and sand, will wear out, as it were; that is, the material will wash away or the action of the water and the wind affects it, and it has to be restored,—some to a greater extent than others; but any railroad, unless it is built of some absolutely indestructible material, requires, in parts of it, renewal to some extent; whatever has been washed away, whatever has been blown away, whatever has been moved from any cause, would have to be restored.

Q. Does the character of the local material in this state make that more important here than perhaps in dryer states and in states where the soil is more stable?

A. Well, what we like to have is dry material, like gravel, something that won't hold water, and for that reason we haul gravel long distances, because it makes a more permanent roadbed than clay of any kind, wet or dry.

Q. I don't know that you have expressed an opinion on conditions in Minnesota, as my question perhaps asked for, as compared to conditions in other states; what is your judgment on that subject?

A. The northern part of Minnesota is both more expensive to build in and to maintain than in the southern part of the state, or in Iowa, or in southern Wisconsin. Northern Wisconsin, from what I know of it, (and I have been across it more or less,) would partake more of the character of northern Minnesota towards Lake Superior.

Q. Now, Mr. Hill, is it possible today, from a mere inspection of the road-bed of the lines of the Great Northern in this

state, to ascertain the quantities that have gone into the road?

A. The quantities that have gone into it?

Q. Yes, sir.

A. No, sir; it would be absolutely impossible.

Q. Well, can the quantities that have gone into making up the roadbed as it exists today be ascertained with any degree of accuracy by measuring the fills or the cuts?

A. I don't know of anywhere that it could be determined by measuring the fills and the cuts on the line of the road. You would have to measure the original borrow-pits where the material came from, and in order to do that, you would have to measure them in the start, you would have to take the actual form of them in the start in order to determine how much had been taken out.

Q. Can an approximate accuracy in determining the quantities be reached in any other way than by a careful consideration of the records of the actual quantities moved, in connection with actual knowledge of the conditions from time to time during the existence of the bank?

A. I know of no other way; I couldn't imagine any other way; and I think that in that case it would not cover it all.

Q. Well, now, will you explain why a personal actual knowledge of conditions is necessary in order to arrive at approximate accuracy in connection with the records of the Company of the quantities that have gone in?

A. Well, for instance, take in the Red river valley, if a man would go to some point where there was a fill of ten or fifteen feet approaching a bridge, behind an abutment he might find some of the original material, but on the broad surface of the prairie he would not find a teacupfull of it.

Q. Is that because it has washed away, or sunk down out of sight, or both?

A. Well, it has probably sunk down, because the constant weight and the blow of the train running over it I think has

had the effect of depressing it at any rate. It is there, a man can go and take a shovel and dig into the grade and it is not hard to identify that black soil of the Red River valley, and I think in places on the line between Glyndon and St. Vincent he would find the gravel that has been hauled in, a foot or eighteen inches below the surface of the prairie, mixed at that place with some of the black soil. I know that I have made those examinations to see what became of the gravel that we had hauled in. We would find it down in the clay. So there was just one thing to do, and that was to keep hauling good dry material until we got enough to hold the track up. Some of it was hauled eighty and ninety miles.

Q. Until recently, has there been an accurate record kept on railroads in this state, or on the Great Northern, of all the material, all the quantities that go into the roadbed?

A. No, I don't think that any of the roads—none that I know of—kept such record of the yardage of work-trains, or that done by extra gangs, or by track labor. They kept the cash end of it, but not the yardage, except in an approximate way. You take, for instance, so many carloads, and they knew about what a car contained. A flat-car used to be called eight or nine yards; now we use sand-cars that contain thirty-five yards.

Q. Taking all of the records that are available and all of the knowledge which long-time experience may have of actual conditions, is it your opinion that it is possible today to arrive at a figure of the quantities or the yardage that has gone into the lines of this state that would cover all of the yardage?

A. My own judgment—and it is largely a matter of judgment from long experience—would lead me to conclude that any estimate would be short of the actual amount.

Q. Now, Mr. Hill, I would like to direct your attention, for a moment or two, to item 29 of this exhibit, which is the subject of Contingencies. Mr. Hogeland has selected certain items

in his exhibit which, as his testimony indicates, are those items into which labor largely enters as a factor and has taken a sum equivalent to ten per cent of the cost of those items to cover the increased cost of the work due to all unforeseen causes, such as fires, floods, tornadoes accidents, strikes, etc.

A. Strikes on what branches of service?

Q. Well, those involved in the items, such as grading work, protection work, ballasting, track-laying and surfacing, bridges and trestles, building all of the different structures along the road.

A. That is, during construction?

Q. During construction. What, in the light of your experience, both in the building of new lines and the reconstruction and rebuilding of old lines, on the various kinds of facilities used in railroad properties, is the necessity for an item of that kind?

A. Oh, there is a necessity because it always occurs; and I think the custom has been, it certainly has as long as I have known, to call it ten per cent. I don't think however, that ten per cent covers it.

Q. Well, what has been your experience in that regard from construction work over a period of years; do you find that ten per cent is short of the actual increased cost when you come to foot the bills at the end of the work?

A. Well, our experience is this: an estimate is made up as to the probable cost of a piece of work, and estimates of ten per cent are allowed for those contingencies. When we get through, we find that work, as a rule, costs more, sometimes much more than the estimate. I never recall one case where it cost less. For instance, where you are building you have got to have a supply of water. Well, the supply of water for construction trains is a very moderate thing; you put up a little tank, maybe ten feet in diameter—the boys call them "Cotton-hats," and you get a supply of water for your construction.

Well, now, we used to estimate, on digging a well for water, or on a windmill; we find that the well is not adequate; if you were running one train a day you would have water enough, and maybe for two trains, but when you run five or six trains you have got to provide for them, and there is no provision made in the estimate. And in carrying on work of that kind men have to be transported; there is usually no account kept of the number of men transported in that way. We keep that *now*, keep accurate accounts, but formerly that was not the case. Then you are carrying on work where you have got a lot of men, a lot of foremen, and a lot of horses—I remember in 1887 that when we were carrying on work that year we had fifty-one teams at work at one time. Now, suppose that there were three or four days or a week of rain, which somtimes happens; the men are all idle. They are all eating, and we have to take care of them, and the foremen and the whole outfit are drawing pay. Take it now, in the last few days, our track work, particularly our ballasting and bank widening, we have now I think twenty steam-shovels at work. Those twenty steam-shovels, if they have a good fair chance, would move 50,000 yards a day. Well, I think these rains have delayed them so that they don't work to exceed half of the time. That state of things is going on all the time you can't estimate against it, you change it with the changing conditions of the weather.

Q. I understand you to say that in your experience you do not now recall a case where the actual result was less than ten per cent, and in most cases that you know of, it has been in excess of that?

A. I think in most cases it has been in excess. I don't recall, and I don't think I ever saw, where it was less than ten per cent.

Q. Another considerable item on this computation of Mr. Hogeland's is that of freight on construction material. In the operation of constructing new lines of railroad it has appeared

already in evidence that a considerable portion of the material necessary for construction purposes is as a matter of practice, hauled out over foreign lines at tariff rates to junction points with the new line, and other portions of the material is handled over the constructed line. What, from your knowledge and experience, is the practice among railroads in moving construction material, in the first place, in using other lines of railroad for that purpose?

A. During construction, it is considered to be the part of economy to do your transportation by any means you can get outside of the road you are building. When we built to the coast we used the Northern Pacific and we paid them tariff rates. When we built up from Minot to Fort Assinaboine and Helena, we used steamboats and the Northern Pacific, sent business out to Bismarck and then carried it up the river.

Q. When the Canadian Pacific lines were being built in Canada, to what extent did they make use of your lines?

A. Oh, they used our lines. The Canadian Pacific, when they were building west of Winnipeg, I made the contract with them for the transportation of all their material in carloads. Anything in less than carloads they paid the tariff rate, but they paid a flat rate of a cent a ton a mile from here to St. Vincent on lumber and rails and timber, and all material that was going in carloads.

Q. The recent building of the Milwaukee & St. Paul road west to the coast, it has already appeared in evidence, involved a very considerable use of the Northern Pacific lines in hauling material to the west.

A. Well, I am not as familiar with that, not so as to have any actual knowledge as to what portion they carried.

Q. Well, then, in your opinion, is it more economical to do this, using other lines at tariff rates than to handle material over the line under construction?

A. Certainly it is.

Q. Now, much material will, of course, have to be handled over the line under construction, and in determining the fair cost of reproducing this property, it has been necessary to consider what the cost of bringing the material out over the constructed lines would be of material such as ties and rails and bridge material, and that has been arrived at by using tariff rates as a charge for moving the material over your own line under construction. Do you consider that such tariff rates so used would cover anything in excess of the actual cost of moving the material over a line which is under construction?

A. No, I think the tariff rates would be lower than the actual cost.

Q. Now, will you state, briefly, your reason for that?

A. Yes, sir.

Q. Why is it more expensive, in other words, to move material or business over a line under construction than over a completed line?

A. Well, in the first place, a road that is under construction is in poor surface, the ties are not regularly spaced, or, if they have been, the movement of the train, unless the tie is well bedded, will change the spacing. Ties that were regularly spaced, like twenty-six or thirty inches from center to center, you will find some of them are forty inches from center to center, and wonder why it was moved. But the road is not in condition to handle the business, and it has no facilities during construction, that is, during the building of the track and the laying of the tracks. You have got to get your track in before you can get your material to put up your stations; your water tanks and your water supply, and your facilities for handling your business, your telegraph,—your everything, has got to be carried in.

Q. Speaking generally, is there, in your opinion, any profit ordinarily from doing any commercial business during the period of construction?

A. No, sir; there is not. You could imagine conditions under which there would be some profit, but as a matter of fact, in ordinary practice, railroads would rather not be bothered with the business, would rather not have it to do until the road is reasonably ready to handle traffic.

Q. Do you know any authority on the subject of the desirability of not handling traffic over a line under construction, or what the consensus of opinion of engineers is on that subject?

A. Oh, I think engineers go so far as to say that where you are reconstructing and changing the line, or changing the grade, it is cheaper to build a temporary line to accommodate the commercial business and get it off the track that is being changed. I think that they recommend that, universally.

Q. As the economical practice?

A. Yes, sir; and I know that it is economical.

Q. Was that not a subject discussed last year at the meeting of the American Association of Railway Engineers, and was that not the opinion expressed in their published report of that convention?

A. It is published in their report; whether it was last year or some previous year, I know that is the general opinion and the rule of action recommended by men in charge of that work.

Q. Why does a railroad attempt to do a commercial business under those expensive conditions that you have referred to?

A. Well, take it in the case of the construction of a new line, we are always anxious to help the people, and get them into the country so as to build it up, to do anything we can to help them, even if it costs more than we get for it. The United States mails are carried at a loss and the railroads are not paid by the Government, and if we should say, "We won't carry your mails at a loss," the business of the country would stop. I mean to say that a railway-mail-car does not pay, for the cargo in it, as much as a carload of coal for the same distance. Railways

do service for the public, (and the public have got to expect it,) they do it because they want to be neighborly and help the situation along.

Q. It has been assumed as a part of this problem that it would take eight years to reproduce these lines in Minnesota and testimony has already been given that, in the opinion of witnesses, there would probably be no net earnings during that period from such commercial business as might be offered. Will you express your opinion on that subject?

A. To build the road in eight years would be a good deal of a task. I can imagine certain branch lines, built as we build them, where there would be some net earnings. For instance, if we go into a new section of country, where there are no settlers and make a survey and drive the stakes, people say, "Well, there is going to be a railroad here,"—that has been the experience in the past when most of the land was government land—and they would come and settle along the line of stakes. The next year we would grade; then they would begin to cultivate the land and say, "We are going to have a railroad," and if the business and the settlement were far enough advanced, the third year we would lay the track. Sometimes we would let the grade go longer than a year. In that way, there would be some business built up. But, all the new business, or all the unoccupied land today is gone; there is no more government land of any consequence anywhere in the state of Minnesota that can be cultivated, and none of the people want to go and settle on it, so that it would be difficult, if the road was to be reproduced and all the other roads as they are today in existence—I don't see where any profit would come or where you would get much business if you were in a position to do it. In the first place, during construction, you would not be in a position to do much business. There might be portions that were completed; if your construction material permitted it you might be able to do some business, but I don't see where you would get it. I can

give you what is in my own mind. When we built from Fort Assinnaboine, which is east of the Rocky Mountains, over eight hundred miles to the coast, we built through considerable towns, Bonner's Ferry, Sand Point, Naples, Spokane, Harrington, Everett and Seattle. They were good towns. We started in the fall of 1890 and the track was connected on the Cascade range, I think, in January, 1893, and in May, 1893 (it will be sixteen years ago) we put in the first tariff, and it was five years before that road earned any net money. Five years! It was in 1898; and today the business of Spokane, in dollars and cents, is more than the business of St. Paul; the business of Seattle is more than that of either of them.

Q. You say in 1898 it showed some net money? Was it several years after that before the net earnings were of such moment as to be considered worth mentioning?

A. That is the earnings on that part. There were eight hundred and some odd miles. Now, as the business grew there, it brought business to the older part of the line, some increase on the older part of the line, which would make some profit, but the portion between Assinaboine or Pacilc Junction and the coast would not be entitled to all the earnings that were made between the Pacific coast and the Twin Cities.

Q. Would be entitled to have their share, however?

A. Their share, yes.

Q. And taking their share of the earnings the railroad you speak of was five or six years before it showed any profits over and above operating expenses and taxes?

A. And some of the years it didn't show operating expenses and taxes.

Q. So, with those considerations in mind, Mr. Hill, I take it, then, it is your opinion that you would coincide with the opinions expressed already by the witnesses, that during the period of reconstruction of eight years, it is doubtful whether

there would be any net earnings from such commercial business as might offer?

A. I think there is very little doubt about it. I think there would not be. I know my experience for thirty years would lead me to sell that profit for a very small sum.

Q. Just dwelling on that a minute you said that on certain completed portions of the line you might do some business; now, what would the character of that business be? In the first place, it would be a short-haul business, very largely, would it not?

A. Yes, it would be on short branches; it would be to an extent independent short branches.

Q. Would any of the conditions exist which make toward economical handling of freight, in the way of volume of tonnage or long haul of tonnage, or any of those conditions which, on a completed line make economical handling, would any of those conditions exist in the small lot of commercial business that would offer on a partly constructed system?

A. Well, the question seems a hypothetical one. It is a condition that never existed, and it would be difficult to answer more than to give my judgment.

Q. That is exactly what I would like to have you do.

A. I don't think there would be any profit at all. I don't see how there could be. The construction of roads in the United States has not been on any such condition. The first roads, you may say, started out at the Atlantic cities. At Charleston, the wealthy planters took the stock; in the Baltimore & Ohio I think the state of Deleware and the state of Maryland. I think that road was originally largely started and built from Baltimore, with the aid of the city of Baltimore and the state of Deleware. And so with the Pennsylvania Company, either the city of Philadelphia or the state of Pennsylvania, or both, were originally interested; and those roads went on and on and on, until they got to Chicago or controlled the intermediate lines

that had been built reaching Chicago, and then there was a start made from Chicago with the roads leading out and out and out and extending. I don't know of any large system that has ever been cut up and built in sections for the sake of hurrying it up. For that reason it is difficult to express more than an opinion on something that you have to imagine how it might be done; but my experience would certainly show that there would be no profit whatever, and I think, on the contrary, that any business you attempted to do would be done at a loss, except in some cases, where, for instance, in eight years you would build some pieces of road, and maybe a branch line which wasn't carrying construction material you might operate with some profit; but when you got to the main line and found it was interfering with your other business, it would be questionable how far the profit would carry. And then if a branch line hadn't a main line to help it, it wouldn't live,—I don't know one that ever did; branch lines have got to be feeders,—a great many people call them "suckers." We have some in Minnesota that we would be glad to give away, if the State would permit us, we have some branches that we would like to donate to the State and be rid of the expense of running them.

Recess until 2 P. M.

AFTERNOON SESSION.

Q. Mr. Hill, referring again to Hogeland's Ex. No. 2, item 38 embraces interest during construction; now, it has already appeared in testimony by Mr. Hogeland that he has based his figures upon a period of eight years, which in his opinion would be reasonably required to reproduce the lines, the facilities, the railroad, generally speaking, in its general condition in the state of Minnesota, including also the period that would be necessary for the necessary organization for beginning the work. Have you an opinion as to whether the work could be done in any shorter time, with any due regard to economy, than eight years?

A. To build the road as it is, it could not be done in eight years, not any more than you could raise a four-year old steer in six months. There are certain things that time enters into—a strong element. You couldn't do it.

Q. You mean it would be impossible, in that period of time, to mature certain portions of the road, as the roadbed, for instance?

A. Yes, sir.

Q. As it is now matured and has been matured during the much longer period which has elapsed since different parts of the system were constructed?

A. Certainly. Part of this road is now forty-seven years old and you could not reproduce it. Part of it is thirty-six years old; I think it is about thirty-six years since it was finished to Breckenridge. You could not reproduce it as it is. So I think, if I may be allowed to say, the question is somewhat a hypothetical one.

Q. Yes, it is undoubtedly true in that regard. Now, considering just for a minute the question of economy in the matter of prices that you have to pay for materials and for labor; it appears from the exhibit that there is considerably over 2,000 miles of track in the state; would you think that any shorter period than eight years could be utilized without enhancing the cost of such items of construction?

A. No; to build it in eight years, you would have to build about a mile and a quarter a day, for the working days, in the season when you can work out of doors or when the ground is not frozen. That would be building very fast. We *have* built faster.

Q. You mean by that you have laid track?

A. Have graded. I remember that we got ready and built out nearly 700 miles in one season, but we had to commence building it over the next season. But it took over a year to get ready to do that.

Q. What do you mean by getting ready?

A. Well, getting your materials and outfits, your tools and equipment, and assembling the materials.

Q. Well, there is a necessity, is there not, for organization?

A. Oh, yes; we had to get the organization, and then we had to get bridge timbers of certain sizes. We couldn't buy them at a saw-mill, so as to depend upon them, they would only make them when it was convenient and found a suitable log. We sent a man down to Kalamazoo and bought from Mr. Woodbury, down there, some timber land he had on Rum river; then we rented a saw-mill and got Gov. Clough and his brother to go in there and "log it," in the winter, and haul the logs down to the railway, and we carried them over and sawed them ourselves. That was the only way we could get the material. I depended upon Mr. Manvel, our general manager, to get the material; I had it contracted for but the contractors didn't deliver bridge ties or material of that kind, and I recall very well that I sent for Major Camp of Minneapolis, and told him the situation, and I said, "Now, we have got to have those ties and you have got to go out and get them wherever you can." He was just starting for Europe, to meet his daughter, but he stayed five or six weeks, and at the end of the time he had gone over to the saw-mills in Wisconsin and got the timbers, the others having failed. When you have work of that kind, it is like starting an army into the field, you can't depend on contracts or contractors, you have got to know.

Q. And so a considerable portion of the projected time would necessarily be taken for preparation and the preliminary organization, getting the men and materials into the field?

A. You would have to know. You go to work and make your contracts for the material to be delivered, but that doesn't get the material. Mr. Manvel made contracts for ties, that year, to be floated down the river, but at places the river got low and the ties were all held up, and then we had to go and

get them where we could. We got a lot of timber from McNair, up near Carlton, a lot of Norway pine, and we put men in there and made the ties—had to depend on ourselves to make good what we couldn't get otherwise. But that is a common thing in carrying on big work.

Q. Now, then, Mr. Hill, the exhibit proceeds on the assumption that six per cent is a fair charge for interest on money furnished as needed during the period of eight years construction; it assumes that one-eighth of the money would be furnished each year, making an interest-charge on the total sum for an average period of four years. This makes a total interest charge of six per cent for four years, or twenty-four per cent of the total items included. Will you give your opinion as to whether a charge of six per cent, to cover the interest on the money necessarily invested in the reconstruction of these lines, or in the lines as they are today, is an unreasonable rate, or what is your opinion upon it as a rate?

A. Well, to begin with, I don't think you could raise the money; I don't know where you could raise money to do anything of the kind. You would start out with the existing roads, as I understand it, in the state—?

Q. Yes.

A. —and this road wiped out. You have to reproduce it. You have to get your terminals. You couldn't get the terminals in St. Paul,—the terminals would have been occupied long ago by other roads. How would you get them? You couldn't drive them out of their terminals for the purpose of using them. The largest investors in railroad securities and bonds in this country, are probably the savings banks and trustees and insurance people; the laws in New England and New York are, I think, the same; savings banks and insurance companies, or those investors who are under the supervision of the state, are not allowed to buy a bond except on a railroad that has paid dividends of not less than four per cent for five years. Now, that would shut you out entirely, as that is the largest money that

is not actively employed. That, however, is a matter of public record, the statutes of those states are easily accessible and better than my recollection, and I can't imagine where you would go to get your money, unless you could find some men who were willing to start with forty or fifty or seventy-five million dollars.

Q. Let me ask you this question: what has been the method of building railroads in this western country, for instance, or in the country generally? It has taken a long period of years, as your testimony already indicates, to construct the Great Northern lines, as they are today, in the state of Minnesota; how many years has that extended over?

A. Well, part of the line was constructed forty-seven years ago; that is, only from here to Minneapolis or to St. Anthony. Then in 1878, when the roads were in the hands of a receiver, we furnished the money to complete the part of the road that had been started by the old company; most of the grading was done in places, and it was built under an order of the federal court, Judge Dillon on the bench. The order was made on condition that we would furnish the money on receivers' debentures or receiver's certificates of indebtedness; and when we came to settle up, five or six hundred thousand dollars of the investment was never paid,—but it didn't make so much difference because we were the bondholders.

Q. Now, then, in the process of building roads in that manner, by piece-meal, (if it might be so expressed) it is apparent that money has to be furnished and interest has to be paid, and the conception seems to be justified that in dealing with the present value of the properties it is proper to consider this item of interest which necessarily has to be paid over the period of time (whether it be eight years or longer) that the construction has taken; now, the assumption embraced in this exhibit is that a period of eight years would be the shortest reasonable period that would be required for the purpose of reproducing

the lines, and it is necessarily assumed that the money for that purpose would be forthcoming, and the question perhaps would then be whether six per cent would be a reasonable rate to compute the element of value embraced in the interest necessary to be paid which has gone into the property, and assuming, therefore, that the money could be raised and would be forthcoming, on that basis would you think that six per cent would be a fair rate for this computation?

A. Well, to begin with, I dont' want to be understood for a moment that I believe the money could be raised—I wouldn't know where to look for it—but suppose that the money *was* raised, I don't know of any construction that has been carried on in that way, with one or two exceptions. The general rule has been that a road would extend as the business warranted and as money could be secured. So it has been from the Atlantic coast and out of Chicago, and so it is yet. Chicago started and built, I think, to Galena & Chicago Union, and it went out as far as Freeport, and that subsequently became a part of the Chicago & Northwestern; and of the different enterprises some have failed and been taken by stronger roads and completed and extended from time to time as could be done. Now, in Virginia a very wealthy man started to build a road from near Norfolk (Soule's Point) to the Pocahontas or Deep river coal-field; he got the best location possible; they crossed to the Blue Ridge mountains on a grade of two-tenths of one per cent or ten and one-half feet to the mile, and over the mountains on a grade of six-tenths of one per cent, thirty-one feet to the mile or maybe thirty-one feet and a half. On that nine or ten miles they have or expect to have a pusher, and on the rest of the road they claim they can haul 4,000 tons of coal in a single train-load. That road was built by Mr. Rogers, who died a few days ago. I think it was his individual property. Now, he started to build a road about 445 miles in length, from the Atlantic seaboard to this coal-field,—which has the best quality

of bituminous or steam-coal in the United States, and there is an unlimited national and international market for coal on the Atlantic seaboard when it gets there; the line runs through a good part of Virginia, an old-settled country, as productive as any part of that state, probably more so. He furnished a very large sum of money himself, I think something over thirty millions. The road was built with great permanency, as permanently as it could be built under the circumstances, because they were to handle heavy trains and heavy traffic. He had to borrow, (this is May) about a year ago, seventeen millions to complete the road. My recollection is that he put up about thirty-five million dollars of the bonds of the road on the portion that was completed and ten millions of interest or dividend-paying securities, that paid at least $700,000 a year, which would make about $46,000,000 of collateral, and his own individual guaranty of the principal and interest, and he raised that seventeen millions on five-year notes. They netted him ninety-five per cent—

Q. Ninety-five cents.

A. Ninety-five cents, (that is, ninety-five per cent of the par) which would make the interest over seven per cent; and, as far as the security was concerned, Mr. Rogers is considered a very wealthy man; his individual guaranty of principal and interest, $10,000,000 on outside securities drawing $700 000, or practically three-quarters of the interest on the $17,000,000, was returned from the additional collateral to the bonds of the railroad; and that money cost him over seven per cent. There would be no comparison between the prospects for business between a line running from that port of Norfolk to the Deep River coal-field where the tonnage is practically as heavy as you choose to make it, (with low grades, low cost of operation and the shortest line from that coal-field to tide-water) taken all together there would be no comparison as between the value of that property when finished, because it was an undertaking

of reasonable magnitude (445 miles) and here you are talking of over 2,000 miles, not including branch lines. I am frank to say that I don't know where you could get the money at all at any price. Answering your question, as far as six per cent goes, it would be a very low rate; it would be an exceptionally low rate and a rate at which I don't think anybody could furnish the money. But *if the money was furnished*, it would be a very low rate. It would be a lower rate than Mr. Rogers could get. While he is a very rich man and gave his individual guaranty, there was security in addition to his guaranty of over two and a half dollars for one, and part of the security was bearing income that was equal to three-quarters of the entire annual interest charge on the seventeen million-dollar loan.

Q. What was the name of that road that he built?

A. Well, it started as "The Tidewater Road." and I think it is now called the Virginia Railway.

Q. Were those five-year notes that he issued convertible into bonds at option of the holder?

A. Yes, they were convertible at the option of the holder, during their life-time, into five-per-cent bonds of the company, so that the note-holder has a right to take bonds if they are worth more than par.

Q. Can you further illustrate your idea in this regard by reference to your own company; for instance, when the Pacific extension was built, the rate at which bonds were issued, or the rate you were required to pay?

A. Well, we have been, or meant to be, very careful in building new lines; we have meant, as a rule, not to build any new lines faster than the existing lines could take care of them; and it took us some time to build up a credit. The bonds for the Pacific extension,—we started with the best estimate our engineers could give—and we provided six million pounds sterling, and my associates and friends said that London was the best market and they would take hold and help. We were

supposed to have no difficulty in selling our bonds as we needed the money, and I think we sold four-per-cent bonds to the Barrings, two million pounds sterling at ninety; it might have been ninety-two and one-half, but my recollection is that it was ninety.

Q. In what year was that, about?

A. That was in the autumn of 1889. Along in November of that year, I think, Barring & Co. failed. We sold another million of those bonds in London, I think through Glinn, Mills & Co., at something less than the price Barrings paid. That got us over the mountains and as far west nearly as Spokane, and we were building from the coast inland. We tried to sell the remaining three millions of the bonds in London and we couldn't do so, and we couldn't sell them in New York. We created a ten-year collateral trust loan, secured by these original sterling bonds on the main line, and we went to our stockholders, and they took those bonds at seventy-five, which was the best and only offer we could get for them. So that the money cost us over seven per cent.

Q. And at that time, Mr. Hill, can you state, roughly, from recollection, what proportion the new extension bore in mileage to the bala of the system east of that already constructed and in operation?

A. Well, I should say, roughly, about twenty per cent.

Q. Well, you had, therefore, eighty per cent of the total mileage in the eastern end of the line?

A. Yes,—and reasonably productive.

Q. Having been in operation, parts of it, for a number of years?

A. Oh, some of the years' earnings were very small; in the early years our earnings were very large.

Q. You mean your earnings per ton per mile?

A. Both; our earnings per mile and of course the rate was very high. Rates I think were—oh, three to four times as high as they are now.

Q. Do you remember what the average rate per ton per mile was, say in 1880, 1882 or 1883, along there?

A. I remember what it was in 1881. It was 2.88 cents; I remember when we took the road, the rate from St. Vincent to Duluth on grain was 40 cents a hundred. I think it is now 12.

Q. Well, in reference to the earnings at that time or during that period, does that have any relation to the opening of the Northwest provinces and the trend of immigration into Canada?

A. Oh, in the first years, a very large portion of our earnings came from north of the international boundary line. I think in about 1883, I remember writing Mr. Kennedy, who was vice-president of the Company, and a director on the Canadian Pacific Board, (so was Mount Stephen, the president of the Canadian Pacific) the importance to our Company of a permanent connection with Winnipeg, and I showed them that 43 per cent of our entire revenue came from north of the boundary at the time that letter was written. I probably have a copy of the letter. It is a long time ago.

Q. Do you remember about when that was?

A. Oh, I should think it would be about 1883 or 1884, speaking from recollection.

Q. Well, now, in those days what was the cost of operation (in a general sense I mean) compared to what it has since become, and what was the character of the railroad, its physical condition and the grade compared to what it has since been?

A. The railroad, as a rule, follows largely the undulations of the surface. The grades between St. Cloud and Fergus Falls were one and a quarter per cent, or about 67 feet to the mile; the same from Minneapolis to Breckenridge; and the embankment was meant to be in construction fourteen feet wide, with light rails—mostly iron rails, fifty and fifty-two pounds to the yard; small cars, small, light engines; with a train of the old, 28-foot cars, we would average from fourteen to eighteen in a

train. The cost of operation I think would be about fifty or fifty-two per cent; but call it fifty per cent, and if the revenue was $2.88, the cost would be $1.44, fifty per cent of the gross receipts per ton mile. The cost would be $1.44; that would be a cent and forty-four hundredths, or about twice what we are now receiving.

Q. On your average rate?

A. On the average rate from the public.

Q. All over the system?

A. That is, at that time it cost about twice what we are receiving from the public. But we are not working with the same kind of a tool we did then, we have a better railroad now. Now we lay steel rails, and we are trying to get away from Bessemer as fast as we can to open-hearth steel, made in open-hearth furnace, and a hundred-pound section or ninety-pound section. We lay more ninety-pound section than we do any other size. Then your roadbed is an entirely different thing. Take the line between here and Minneapolis, it doesn't follow the old line at all; the grades are cut down, and the curvature same thing. At Breckenridge the grades and the curvature have been cut down twice. I think the records of the original construction would show, if we could get them, that the amount of reconstruction would total in yards three times as much, or more, possibly four times as much, as was moved in the original construction.

Q. What has been the reason for the rebuilding of these lines in this way and the expenditure of money for that purpose?

A. To improve the appliances with which we are doing the work so as to enable us to reduce the cost; in other words, to enable us to get more for the dollar that we spend.

Q. That means—?

A. When we started cutting down grades, I think our average trainload was just under two hundred tons; now it is about five hundred tons.

Q. And that has had a direct effect upon the cost per ton of moving the business?

A. Well, with the old road you couldn't. In the first place, the rails were not heavy enough, and the embankment wasn't heavy enough to hold up the equipment. Take not so long ago, I think it was in 1887 or prior to 1887, I don't think we had any engine on the road with over sixty-thousand pounds on the drivers; *now* we have engines with 300,000 pounds on the drivers. And the cars—the old 28-foot car had a capacity of ten tons (20,000 pounds), with the understanding that you might overload them to the extent of ten per cent. Well, those cars were moderately new, six or eight years old, and we put in extra draft-rods under them, put in heavier axles and heavier wheels and got the capacity up to twenty-eight or thirty thousand pounds, but were ordering new cars at forty thousand, and then we got up to sixty thousand, and now our standard box-cars are eighty-five thousand. Well, it started, thirty years ago, at twenty thousand. In those days wages were not as high as they are now. There is a difference. I had those figures made a couple of years ago, and the advance in twenty years in wages was about forty-seven per cent. We used to burn wood; now we burn coal because we can't get the wood. We used to buy wood for delivery alongside of the road for from ninety cents to a dollar and a quarter a cord. Now we bring coal from West Virginia and Pennsylvania because we can't get the wood. It costs more to run a train per mile than it used to, but we get so much more for our dollar,—and we have to or we would be bankrupt in six months.

Q. Now, with this greater efficiency, I take it, from your statement about the trend of rates, there have been very large and constant reductions in your average rate per ton per mile, (which I suppose means reductions in the absolute rate,) have there not?

A. Certainly. A reduction in the rate per ton per mile

might be partially due to an increase in very heavy tonnage that was carried at the lowest rate. If there was a large increase of coal or some grain that was carried at a rate below the average, that would have the effect of bringing the average down; but the grain tonnage in Minnesota in the past ten years has very largely decreased.

Q. Reference has been made to figures which I think have already been referred to in this case by a witness (I think it was Mr. Maguire, a traffic witness). I will show you a set of those figures, which are already in the record, for the state of Minnesota, and ask you to speak for a moment on the decrease of the shipments of grain from Minnesota stations over the Great Northern road.

Mr. O'BRIEN: Mr. Holden, is that an exhibit?

Mr. HOLDEN: Mr. Maguire didn't make an exhibit of it; he simply read a portion of the figures into the record.

A. Yes, I recognize these figures.

Q. It appears from them, Mr. Hill, that in 1902 there were forwarded from stations on the Great Northern, in the state of Minnesota, 895,575 tons of all kinds of grain, whereas in 1908 there were forwarded but 486,565 tons?

A. Yes, sir; that is correct.

Q. Practically one-half of the tonnage, over a period of seven years. Have you had occasion to consider the production of grain and the decreasing amount of it, if that is the fact, in the state of Minnesota over a recent period of years?

A. Yes, sir; I have.

Q. What is the fact in that regard?

A. Well, I have made myself to same extent commented upon because I have tried to get the farmers to preserve their lands. The conditions of this state are about as they have been in every other state at the same period of its existence or settlement. The yield per acre in Minnesota has gone down from —we used to think twenty-five bushels to the acre was what we

had a right to look for; if a man got below twenty north of the Minnesota river he thought something was the matter. Now, they are satisfied with twelve. This statement shows that in 1902 we carried 784,832 tons of wheat from Minnesota points; that is, that originated in Minnesota. In 1908 it was 292,442 tons. In that time we added very little to the mileage of our road in Minnesota, but a portion of that business would be affected by the construction of some extensions of the Soo Line, but only to a small extent. In South Dakota in 1902 the total grain movement was 148,659 tons; in 1907 it was 218,886 tons; there was no extension of the railway there. In 1908 they had dry weather and it cut their crop off about the time the grain was ripening, so that they had 151,473 tons in South Dakota against 148,000. In North Dakota in 1902 they had 1,215,000 tons; and in 1908 1,358,000 tons; but in 1908 the Soo Road had much more mileage in North Dakota in competition with us, built after 1902, than they had in Minnesota; and Minnesota in wheat drops from 784 to 292. I am sorry to say it, but the fact remains the same.

Q. To what do you attribute this decreased amount of grain tonnage from stations on the Great Northern in this state?

A. Well, it is the same thing all over the state; it is not confined to the Great Northern. It is the same thing all over the state and it is due to the want of proper care of the land. You might ask me why the valley of the Euphrates doesn't raise as much as Herodotus tells us it did when he wrote—fifty-fold; that would be fifty bushels to a bushel planted. Today they don't cultivate it; it is a desert.

Q. Then, if I understand you—

A. And we have done nothing, literally nothing, in Minnesota, until within the last few years; and we have done nothing to restore or preserve the fertility of the soil as a rule; and they have gone on cropping, cropping, cropping; we are down now to about twelve or twelve and one-half bushels per acre; and

unless the market had made the turn that it has (I mean the markets of the world)—a great many people blame Mr. Patten for running a "corner,"—I think if Mr. Patten hadn't bought the wheat he did for May delivery and held it in this country it would have been exported and wheat would have been higher than it is, because I find, in reading the Cincinnati papers, that mills have been closed in Ohio because they couldn't get wheat at a dollar and a half a bushel, and I know that they have been carrying wheat to Kansas City from Chicago all winter, and paying freight on it for the Kansas City mills to make flour, not to export, but to make bread for people living in Kansas. If it wasn't for the high prices of wheat, farmers would have to give up raising wheat on the lands in Minnesota, in most places, as they have, in southern Minnesota today; they wouldn't get enough to pay for cultivating the land. If the decrease for the next fifteen years would be in proportion to what it has been in the last twenty-five, they would get about seven to eight bushels per acre; that would not pay. At a dollar a bushel it wouldn't pay the rent and the labor and the seed. But that is not peculiar to this country or to this state. It commenced on the Atlantic. General Washington, in his time, wrote a letter to Alexander Hamilton on the subject, and he spoke of the rapidly approaching time when the land would be exhausted and would not pay for cultivation. Eighteen or twenty years ago, in Great Britain, they were down to fourteen bushels, and they became alarmed, and they went at it in a business-like way, but they were better able to do it, for the large land-owners renting the land had the power to fix in the lease how the land should be cultivated. Well, the result has been that the last figures I have, and they are for the crop of 1907, their yield of wheat is 32.2; in Denmark it is 37.38; in Holland it is 34 and a fraction; in Germany it has been cultivated for 1500 years,—and nothing like as good land on the average as ours, and all northern Germany sandy ridges,—and their average

is 27.75 bushels, I think, or in that neighborhood, they have a little under 28. And with the best wheat-growing land anywhere in the northern part of the valley of the Mississippi we are satisfied with twelve or thirteen bushels. It is a material condition as it affects the railroad.

Q. The tonnages which the railroad therefore seems to be getting in the state, of grain, and the grain rates are one of the rates involved in this controversy, seem to be about half what they were in 1902?

A. This state produces practically no fish, not enough to count, seriously, in tonnage; the forests are largely exhausted; we have some standing timber and there will be some lumber cut in Minnesota, may be twenty or twenty-five years hence, but the annual cut is very greatly reduced. Stillwater was a big lumbering point, Minneapolis, Anoka St. Cloud; today they are not. And we have some ore in the northeastern part of the state, but that is owned or controlled by people outside of the state, all it does to furnish revenue to people living in Minnesota it makes a market among the miners for some butter and eggs and beef and mutton and the wages for some men, but most of the ore-mining is done with steam-shovels—very different from ore-mining in general. Now, when you figure it down, I think it is safe to say that seven-eighths of the revenue that supports people in Minnesota comes from the cultivation of the land, and that yield is cut in two, practically, to what it was twenty-five or twenty years ago, and we are nearing a point where we have to do differently; if not, some of them will go to the graveyard.

Q. Now, in connection with this testimony, I will draw your attention to Ex. 34-Parker which has already been introduced in evidence, and which is a compilation of station earnings and expenses of different lines of the Great Northern in the state of Minnesota, over a period running from 1902 to 1908 the first page of the exhibit being a summary of the results shown in more detail on the later pages; some testimony has already

been given regarding this exhibit, and the general result seems to show that there has been a marked decrease in both revenue and pounds forwarded and revenue and pounds received at the Minnesota stations, and a marked increase of station expenses during that period. Have you had occasion to observe these statistics as they have been made from year to year and to consider them?

A. I have not seen that statement, I keep statements of stations, showing the total earnings from freight and from passenger.

Q. Runing over a period of years?

A. Yes, sir.

Q. Similar to this. I will say, Mr. Hill, that this exhibit, as has already been testified to, has been made up from the train statistics, such statements as you say you keep and have under your observation.

A. That I don't know; I haven't seen this and don't know. I haven't seen it in that form. The totals might be correct, but I couldn't testify to it.

Q. Well, the testimony has already been given that it is a correct compilation of the statistics, and I simply wish, without going into matters of figures, to direct your attention, in connection with your previous testimony, to the trend of earnings and freight forwarded and received at the Minnesota local stations; what has been the fact?

A. Oh, the freight forwarded and received in Minnesota, at some stations, is greater than it was, but as a rule a large majority of them show from some decrease, some material decrease, to a very great decrease; some of them are practically cut in two.

Q. To what do you attribute this condition?

A. You can't attribute it to any new railroads built in that section, because there haven't been any. It is due to a lighter production.

Q. Well, that would be true—

A. Well, if the tonnage was raised in the country the people who raised it would either have to eat it or bury it or ship it, and it would show in the tonnage moved. They couldn't eat it. I know myself that I keep a record of all the stations in Minnesota, and I know that a very great majority of them show a very heavy falling off both in the tonnage moved and in the revenue. It is so heavy that it is rather alarming, or it would be if we had to depend on Minnesota to carry its portion of the railroad.

Q. Now, a decrease in revenue, it might be said, could be partially accounted for by a decrease in rates, and I understand that it is a fact that taking the grain rates, for instance, that are in controversy here, there were certain voluntary reductions made by the roads in the grain rate before the final reduction made by the legal authorities which is now in litigation; what have you to say about the grain rates on the Great Northern in the state of Minnesota; what has been the theory on which they have been made and what is your judgment as to the character of those rates?

A. Well, bearing in mind that all the business that supported the population, whether in the cities or outside, that all the business and revenue and the value that was produced in the state came from cultivation of the ground,—the little timber isn't large, and some of the logs now go down the river, some of the logs are hauled by road to points on the upper Mississippi, dumped in the river and come down and are sawed at Clinton, or somewhere down the river, so that there is nothing but the wages that comes to us in Minnesota; and I have felt that it was the wise policy—in fact, the only policy—that could build the state up to make low rates on what the state produced, so as to make it an inducement for a man to cultivate the soil, which was the only asset we had. For instance, as a policy, we have made grain rates very low, we have led in the

reduction in grain rates in the Northwest. I remember being called by the Railroad Warehouse Commission when Senator Gibbs and Gen. Becker were members (and I don't know whether the other member of the board was Col. Baker or Mr. Liggett,) and they wanted to know if we couldn't make a reduction in the grain rates. Just at that time grain rates had been enjoined by the court; a reduction had been ordered in Iowa and had been enjoined by the courts. I asked them if they would be satisfied with the rates that the courts had enjoined in Iowa. They said they would. I asked them to get the tariff and take our tariff and compare, and our rate was fifteen per cent lower than the rates that had been a short time before enjoined in the state of Iowa. I used to compare the rate from La Crosse to Milwaukee, 200 miles, with our rate from Breckenridge to Minneapolis, 204 miles, and our rate was always lower; and today, take from west of Lake Superior out towards Devils Lake, in North Dakota, and from Chicago out to western Iowa west of Des Moines, I think our rates are fully twenty per cent under them, and have been for years. Well, we have made that rule our policy, because we have tried to build the country up, and in building the country up all the other different kinds of business would go with it, becausoe the cultivation of the land was the foundation. To illustrate, (I have used the illustration before) take a man with forty acres of wheat, if he is a good farmer, twenty bushels to the acre would give him 800 bushels, and sixty pounds to the bushel would give him 48,000 pounds, which would be twenty-four tons; at five cents a hundred would be a dollar a ton or twenty-four dollars. Now, suppose that we get a merchandise rating for that man. It has been said that our merchandise rates were higher than they were in Illinois; and I remember Col. Baker showed me, on one occasion, that our rates were considerably higher from here to Breckenridge, or from here to Fargo, than they were between Cleveland and Chicago. Well, there is quite a difference in the density of

population and traffic in the two places. But if that man, raising forty acres of wheat, went to the country store once a week, fifty-two times a year, and brought away twenty-five pounds of freight each time, (it wouldn't be salt, because salt goes in carloads at special rates, lumber in carloads at special rates, and so with coal, so with nails). I am speaking of shelf-goods, if he bought some shoes for his children and some calico, some cloth, some clothing, some tea or coffee or sugar, and bought twenty-five pounds in weight every week (that would be more than it would average) he, in the course of the year would bring 1320 pounds from the store, and that freight would average from thirty to thirty-five cents a hundred, from six to seven dollars a ton. If it would be two-thirds of a ton, we would get probably $5, might get $6; and if we carried the merchandise for nothing, the farmer would get four times as much as out of a reduction of five cents on his grain-rate. We would get $24 in one case and $6 in the other if we carried his stuff free that went out to go on his shelves. Now, we differed. I think the first material difference we had with the Commission was because we thought we had been reasonably successful in building up the country through that policy of what we could afford to do, for the man who was working in developing the foundation of the prosperity of our section of the country. Suppose we take off ten cents a hundred on boots and shoes, or twenty-five cents a hundred, or carry them for nothing, would it make any difference to the man who buys the shoes in the country whether the pair of shoes weighed two and a half pounds? and if they paid fifty cents a hundred to get them out, it would be a cent and a quarter. Would he get the cent and a quarter to the credit or reduction in the price, or would the man who sold them take it? Now, really, the foundation of our business, and of the man who is merchandising in the country, and of the man who is Regent of the State University, and of the State University itself, and the whole thing, depends, in Minnesota, on

the cultivation of the soil; and in the long run we have got to go back to that, and if we don't we will suffer the consequences. I have been an apostle of better work for a few years and it keeps me busy now declining—This is not under oath. (Laughter.)

Q. I would like to get from you just an expression of your opinion as to the character of the grain rate prior to the legislative enactment which was in litigation here which further reduces your grain rate, whether you in your judgment and your long experience as a railroad man in this state, feel that your railroad rates before the legislature sought to reduce them were as low as they reasonably could be and moved grain traffic in this state with any profit at all?

A. We always meant to have them as low as we could afford to make them, believing that that would build up the general interests and our interest with it; but as a matter of comparison, "high" and "low" are comparative terms, and they were actually lower than—I thought those rates were the lowest rates west of the Mississippi river between Manitoba and Mexico and had been for a great many years. When I speak of that I am speaking of the local rates, the local rates from western Iowa, the local rates from points in Kansas or Missouri to St. Louis, or in Arkansas, or in Texas, or in any other place, as compared with our local rates. Now, you might take it at times on export business where a long through-rate is made, the proportion that some part of the road or some company which was a party to the long through-rate would get might be lower than our local rates.

Q. That would also be true in the rate on a long line which necessarily had to meet a rate on a short line, it might be found in that case?

A. Yes, sir.

Q. But I mean your general basis of grain rates.

A. As compared with the general basis in other localities,

ours have been lower for a great many years.

Q. That has been a definite policy on the part of your Company?

A. It has.

Q. For many years past?

A. It has.

Q. Now, Mr. Hill, is there a necessity for a railroad such as the Great Northern maintaining a sum of money as a working capital to meet the different needs as they accrue day by day?

A. The company must always have a working capital for its own protection.

Q. What sum would you say would be a fair amount for a system such as the Great Northern?

A. The system is increasing, the business has been increasing; and the necessary amount would increase in proportion. I should say that you would be getting at danger-mark when you got below four or five million dollars.

Q. That would be a minimum, in other words?

A. Yes, sir.

Q. Well, considering the reasonable sum which might be taken into consideration in the problem of reproducing this system and replacing it in its present condition, what would be a fair and reasonable sum to consider as a working capital to equip the Company with, in order to reasonably transact its business?

A. You ask me a question that I scarcely know how to answer, because I always come back in my own mind to the impossibility of starting in to build a railroad or getting the money to build a railroad under those circumstances.

Q. Let me ask you what in the past has been the sum or sums ordinarily necessary for the conduct of your business in recent years.

A. Well, we used to think that a million and a half to two

and one-half millions was enough; we soon found that it wasn't, we had to increase it, we were called upon to do so many things.

Q. What are some of the needs?

A. Why, you can commence in the cities. You have got to separate the grade of the street from the grade of the railroad; you have got to serve very little community. You build a new passenger station—it is rather amusing in some respects—and every little town within 100 miles wants a new passenger station because you did it for the other fellow. And you take building a permanent passenger station, the first building is usually built of wood; building in a hurry you put up a freight and passenger station under the same roof. Now, we undertake to build a brick or stone passenger station, and we want to build one that will be good for thirty or forty years (it ought to be) and we have got to build a larger and much better class of buildings. We have several of them in this state, and we shall have to build several more. With the increase of equipment, the increase of tools in doing different kinds of work you have got to have money. Last year there was a dam went out (Hauser's dam) near Helena, thirty-five or forty feet high, the Missouri river came down, ten or twelve feet high, in a breast of water, filled the right-of-way with gravel and debris up to the tops of the fence-posts, carried down everything before it—carried a frame story-and-a-half section-house off its foundation and landed it three miles from where it had stood. We thought the dam was well protected, but to repair it and to protect it with heavy two-men riprap, (that is, stones that take two men to place,) it cost over a million and a quarter of dollars.

Q. Now, from what source would you have to turn for your money to pay the bills of a casualty of that kind?

A. You would have to go to your working treasury. In England, they followed a policy for many years (and some of some do yet) that anything in the way of additions is the investment of new capital, and you must divide all the net income

and must make our additions or renewals from new capital. The result of that is, since I began to notice the average cost of English roads, they have increased the cost to about $90,000 a mile. Their average cost now, the last figures I saw, is $288,000 a mile.

Q. You mean the average capitalization per mile?

A. The average capitalization per mile, $288,000. But they have divided their income and have gone on paying for these improvements by the additional sale of stock mostly or debenture. In that way they have run up their capital to a point where it is near the breaking point; in fact, it costs too much, the rent of the property is too high, higher than the average consumer can pay.

Q. Now, the American practice has been quite different from that, Mr. Hill, and of course expenditures of the kind you have referred to ultimately are appropriated in their proper way to either capital or whatever other place may be proper under the regulations and rules in vogue in this country, but the immediate payment and the immediate sums of money for all those classes of expenditures is your working fund and working capital on hand. Now, can you further illustrate that by the experience you had during the winter of 1906-07, calling for a very large expenditure of money upon very short notice?

A. Well, fighting snow in the winter of 1906-07. The usual depth of snow in northern Minnesota and Dakota is from six to twelve inches. We had from two and a half to three and a half feet, and very cold weather. Take a snow-plow with engines to go ahead of the train and to keep the road open, and then take two engines on the train,—take four engines to do the work that one engine ordinarily does and then only with very great difficulty. We had places there, for three or four miles on a stretch, where the snow-drift was as high as the cross-arms of the telegraph poles. Of course, that added enormously to the cost of doing the work. But you must have a

working fund, for you are called on all the time for various reasons and in various places to spend money, some here and some there.

Q. Can you illustrate this further?

A. Just yesterday, following this cloudburst and the breaking of a dam in Montana,—a thoroughly repaired new portion, part of it on a new location, to get farther away from the river—the ends of the ties were taken off from the edge of the bank going to the river, and a locomotive and eight or ten cars (I got the report and saw it yesterday) as they ran on to it the whole bank sloughed into the river, and the locomotive and eight or ten cars went into the river, and the engineer had his head hurt, the fireman was bruised up, the conductor was more or less bruised, and the poor brakeman, they don't know where he is, don't know whether he got frightened and ran away, or whether they will find him in the wreck. That was yesterday. Now there are three or four hundred feet gone out, and we have got to go to work and repair it at once. That was repaired with unusually heavy material, using the best judgment we could, because I have always given instructions to do any work that is being done, in the way of replacement or renewal, bearing in mind that you want to have it so done that it won't have to be done again and will be permanent, and that is the result there. But that is not an uncommon thing in railroads. When you get in the mountains, "Man proposes"—he doesn't dispose of a thing; when we have five or six or eight or ten feet of snow in the mountains and there comes a warm rain and you see those little streams get up to mountain torrents, then you think how little able you are to provide against them.

Q. What other uses, Mr. Hill, have been required of money, by the Great Northern, for instance, in connection with the movement of the grain crop of this state at different times?

A. Well, in moving the grain crop, I think I can recall at least five times that the grain could not move or would not

have been moved, if we hadn't furnished the money. It isn't very long ago, either, since that occurred. The crop of 1907, that is, the crop preceding the last one,—I was in New York, I got a telegram from home that there was no money to pay for the wheat or grain in the Northwest. I came home at once. On the way I telegraphed the bankers to meet me, particularly Mr. Ordean of Duluth, who in a "storm" is a very strong man, and I got the bankers to meet at the Minnesota Club. There was very little wheat being bought; a few of the strong concerns had some money and they were making a very profitable use of it. They were buying wheat with a margin of fourteen or fifteen cents a bushel.

Q. Now, just explain what you mean by that.

A. Well, I mean that the price they paid in the country, plus the freight to the terminal, would be about fourteen or fifteen cents less than the grain was worth. Well, I got them together at the Minnesota Club. I said, "You have got twenty-one millions of capital and surplus in the banks represented here." I said, "If you don't furnish money to help move the crop, the country merchant can't pay your wholesaler in the city, and he can't pay you, and you are all going down together like a row of bricks. If you will furnish two millions, our Company will furnish two millions." And after a while they agreed to do it. As a matter of fact, we furnished two millions and a half; they furnished a million and three-quarters, I think. Mr. Bailey, of the First National, knows, because he practically ran it, I think he was the head of the committee in St. Paul; through him the money was distributed. That is one case. I remember when we have had two and a half millions or more. In the fall of 1889, there wasn't any money, excepting the money that we provided, to move the crop. The same in 1893; the same in 1898, and I think in 1903 or 1904. Sometimes we have had a million dollars, sometimes we have had nearly three millions. And if we didn't—now, think of the position: here the

farmer had worked, in order to get his crop ready in the fall of 1907, and there wasn't any money to be had anywhere; the bankers lay down; there wasn't any money to buy his wheat. A few who had very good credit and some money were buying wheat with a margin of fourteen or fifteen cents, when two cents or two cents and a half would be a big margin. But after we got the wheat started, we told them, "We won't advance one dollar to carry wheat in the country or to speculate in wheat, we will advance it to pay for wheat at the terminals, and if you can't go out in the country and buy it and ship it in to the terminals we will line the tracks with cars for the farmer and let him ship his own." We got it moving; in three or four days the margin was down to two and a half or three cents.

Q. What bearing did that have on the price the farmer got for his wheat?

A. Why, the farmer got the difference of from ten to eleven cents more a bushel. He got a great deal more for it than we got for carrying it; we saved more to him than we got for carrying it, a great deal, I should think about two to one.

Q. The object was to get the grain moved before navigation closed?

A. Why, if it didn't move before navigation closed it would have to remain until the next spring; then it would be in competition with the world's market, with Argentine and Australia, the wheat raised during the winter, and you couldn't tell what price it was going to bring, and anybody that bought it would have to buy it on a sufficiently low price to assume the risk of carrying it against wheat from the southern hemisphere.

Q. Now, Mr. Hill, in considering the question of the present value of the Great Northern property, this cost of reproduction has been used as one of the elements in determining what the fair value of the property is; are there in your opinion, other

elements of value that may properly be considered for instance, is good credit an element that may be considered?

A. Credit to a railway is like credit to an individual, a business corporation, or a bank. Credit is reputation.

Q. What have you to say of the credit of a railroad system that has been in successful operation over a long period of years compared to the credit of a new concern not known by long experience to the public?

A. Well, the longer period a railroad has shown its ability to make net earnings and to meet its obligations, in proportion to that it has earned a standing and credit, always supposing that its business is carried on in an honorable, straight-forward way. Of course, locality has something to do with credit. A great many people thought I had wrecked the credit of the Great Northern on two occasions: one was building west of Devils Lake to Helena and Butte, and the other was building to the Pacific coast. A great many (and some of our own investors) said, "Mr. Hill has finally met his Waterloo; here the Northern Pacific has been in that country so many years and doesn't pay any dividend at all, and how does he expect to pay a dividend building into that country?" Credit is something that is of very great value. I can recall on one occasion when the city of St. Paul, or its bankers, Dawson & Co., hadn't the money to pay their interest in New York when it was due; our Company guaranteed it and told the banks to "go ahead and pay it and advance it, and if the city doesn't pay you we will pay you."

Q. What do you say to—

A. I was just speaking of credit: Credit is something that is very tender and very sensitive. In building to the Pacific coast I thought I knew; I had studied the case thoroughly, and I thought I knew more about it and thought it would grow. Well, it has fortunately. I think both the Northern Pacific and the Great Northern today, for the mileage, get more money

west of the Rocky mountains than they do east, and that change is rapidly, very rapidly, growing greater. That country is growing in leaps and bounds while we are growing backwards.

Q. Do you consider that the credit of the Great Northern road is an element of value in the property?

A. A very great value; I have always so esteemed and tried to maintain it. I think that the credit of the Great Northern road has not only a value to the Company, but it has a value to the entire Northwest. I know foreign bankers have told me that their experience with railroads in the Northwest had condemned it as a country for investment, "but you have redeemed it, Mr. Hill."

Q. Now, it has been suggested that the location of a railroad in the different towns and cities and villages through which it passes has a great deal to do in considering the value of the property; if the location is central and convenient to the business is one thing, and if it is remote and on the outskirts of a town, it is another thing. Now, how is the Great Northern road, in the state of Minnesota, generally speaking, located in the different towns and cities and villages through which it passes?

A. Well, it was very largely located and built there before the town was; the town formed on the railroad.

Q. Does that have a direct influence on the business which the Company gets?

A. The railroad was in the middle of the business; the business formed around it, and it was more convenient, much more than if it had located some distance out.

Q. Taking the location here, in the city of St. Paul and in the city of Minneapolis, is that true here as in the other places you have referred to?

A. Yes, sir.

Q. Does the location close to the business center give an added value to the terminals on that account, in your opinion?

A. The terminals in St. Paul are very, very limited; I mean the terminals that can be conveniently and cheaply used. They are very, very limited; few people realize how limited they are. I remember when an elevator was being built, they wanted to build one here, and I wouldn't let them build it. They wanted us to find the ground. I wouldn't let them build it on any ground we had nearer than out between Rice street and Como avenue. The big elevator has since been pulled down. Mr. Horace Thompson and Gen. Sibley and Mr. Drake brought Mr. Kittson, who was interested with us in the road, and wanted to build it down in the yard. I told them there wasn't any room, it wouldn't go down there. "Well, I was not trying to build up the city." And the Minnesota Transfer—that was the first piece of common territory where all the roads then coming here could get together and exchange their traffic—I started in to buy that ground at about $200 to $225 or $250 an acre, in front of D. A. J. Baker's farm, running over to Marshall lake; and the fact that I bought it and didn't say what use it was to be put to made some mystery about it, and they began to speculate in property out there. The other railroads said there was no occasion for a transfer ground and stockyards; but, in the meantime, it got to be worth or selling for $600 or $800 an acre; that was a year from the time I bought it; then they would take it at cost, and they did; I gave it to them at what it cost and I think six per cent interest. The people of St. Paul said I was ruining the city because it was out near Minneapolis! It was the only place that we could get where all the roads could come together. Well, now, around out there a population of—I don't know, 15,000 or 20,000 people, I suppose, maybe more—has grown up. But if it had not been acquired and was not in existence you could not make the transfers in St. Paul. If you disregarded all the local business, it would occupy all the transfers. It had to be done. There are times here when transfer business is crowded. The most of the

roads are short of terminals, and at times we would find
lines bringing empties and delivering them to us in Minn
because they were going to haul some product away f
industry on our tracks; and in the busy season, wher
is moving, I have seen the grain backed up waiting to g
Minneapolis, notwithstanding that we have, I think,
minals in acreage as much as any two roads, the grain
be backed up as far as Morris and Breckenridge wai
come in; until we had to say, "Now, these terminals are
your accommodation, they are for ours and the patrons
line, and you must take your cars, if you have got a load
for them and they can be loaded in forty-eight hours,
set them into any industry on our lines, but they must b
ed, we can't store them here by the week." That is a ver
mon occurrence every year when the business moves. W
to, as it were, quarantine them or tell them we won't
their stuff unless it is to be unloaded at once. Or if it
empty it must have a load, it must be going to somebod
wants to use it; we can't furnish terminals to hold every
cars. Now, you take the average of the property in the St
yard, or in the Minneapolis yard, and the average groun
upon which a car stands, not packing the cars in as tigh
the yard would hold them, but setting the cars into the
as you would under ordinary working room for switchin
moving cars, I think it is well within bounds to say th
ground-rent is seventy-five cents a day, the interest o
ground occupied by the car and tracks—seventy-five c
day! I remember that we had great trouble with
freights. We would load at our University yard and
and the shops and Minnesota Transfer, at Minneapolis ea
Minneapolis west, so that we would have five points
Twin Cities where we were receiving freight. Now, we
be receiving freight at those five points for Litchfield,
please, and if they were loaded into a way-car when we

Litchfield you would have to open five cars and look for the local Litchfield freight in each one of them and there would have to be five movements to get one car to the platform, and all that sort of a thing. Well, to overcome it we built some freight cars fifty-eight feet long, with two doors on each side; established at Hamline, by the bridge, a transfer where we would take all the freight that was received in Minneapolis east and west and Minnesota Transfer and St. Paul, and put all the Litchfield and Willmar freight into one car, consolidating it. I remember our traffic men said, "Oh, Mr. Hill, you know that you can't handle freight in that way; every time you handle it here at the station and up at the transfer it is going to take time, and you will delay our freight so that in short hauls, where matter of time is of consequence we will lose all our business, and our neighbors and competitors are rather laughing at the idea." Mr. F. B. Clarke was our traffic manager, and almost with tears in his eyes he asked me not to do it. I said, "Frank, we will do it, and we will make it." He thought it couldn't be done. But, as a matter of fact, we made twelve hours; we relieved the situation here. The situation here is rather congested now, and it is congested in every large city in the Union. I have seen it in Pittsburg, where they have thousands of tons of freight piled up ready to ship, and for three and four weeks they could not get an empty to put it on. The furnace people told me they had pig-iron piled up all around the furnace, and had some of it there for ten weeks, that they couldn't get a car to ship. That was when we were "booming." Later they had "cold feet," and had a different experience.

An adjournment was here taken until Wednesday, May 26, 1909, at 10 o'clock A. M.

Federal Building, St. Paul, Minn., Wednesday, May 26, 1909, the hearing was resumed at 10 o'clock A. M.

JAMES J. HILL,

recalled on behalf of Complainants, testified:

Direct Examination resumed.

By Mr. HOLDEN:

Q. Mr. Hill, in your testimony yesterday, you referred to the price realized by the Company for the Pacific Extension bonds that were issued, in pounds sterling, and some of it you disposed of in London. Upon further examination have you any correction to make as to the price you realized?

A. Yes, sir. I was speaking from recollection, and I confounded it to some extent with other issues. The bonds sold in London to the bankers, the first two millions, at 86, less two and a half per cent bankers' commission.

Q. The Company reaizled 83½?

A. 83½.

Q. And the later issues?

A. The collateral ten-year bonds, that went to the stockholders, went to them at 72½. The bankers would not make any offer for them. It was in 1892, and conditions were such that bankers were not anxious to buy bonds on new enterprises.

Q. So, as I think you said yesterday, the only market the Company could find for the remainder of the bonds, after selling the first two million and the second one million in London, was to the stockholders of the Company itself?

A. Yes, sir; to finish the road.

Q. Now, I would like to direct your attention once more, to the exhibit which has been referred to as Ex. 34-Parker, which is a consolidated statement of station earnings and expenses, by territories, in the state of Minnesota, for the fiscal years June 30, 1902, to June 30, 1908. It appears from this exhibit that all of the lines in the state of Minnesota have been

covered excepting certain lines in the northern part of the state, the line across the northern part of the state from Carlton to Crookston, and the two lines north are not in the exhibit; certain of the large terminals and distributing centers, the figures relating to those are not in the exhibit. Have you, since yesterday, Mr. Hill, from the original records upon which this statement is based and from which it was made, examined the results upon the lines that I have referred to which are not shown in this statement so as to determine what the conditions have been during this course of years, about the freight revenue and weight, moving to and from its stations on those lines?

A. I have. I might say that when this statement was put before me yesterday I had never seen it, and I had not seen the figures made in that form, and I so stated. I took occasion to compare and examine the record after leaving court. These figures are made from the station records and are correct as to the business at the stations; that is, the business forwarded, the business received and the passenger receipts.

Q. And the expenses, also?

A. The expenses of the station; that is, the expenses of the station itself. If a station burned down and was rebuilt, it would not show that; it is just the cost of maintaining and running the station; that is, when they are maintaining the heat and light and labor and clerk-hire.

Q. On the lines in the northern part of the state, from your examination of your records on that subject do you find the same relative conditions there that appear from the exhibit as to the remainder of the lines in the state?

A. North of Crookston the reduction has been greater, on an average, than in most other portions of the state. The volume of business and earnings has been less, the falling off in revenue has been greater.

Q. What have you to say regarding the propriety and justice of leaving out of the large terminal stations results from a statement of this kind?

A. Of the terminal business, the records are kept, but there is such a large proportion of the business that is from outside of the state (interstate); for instance, I think the interstate business at Minnesota Transfer, while there is some interstate business from St. Paul (not a great deal) the interstate business at Minnesota Transfer is many times as large as the business from St. Paul, and in trying to get at the state business it would be very misleading to include the interstate traffic coming to the Minnesota Transfer; and the local stations outside of distributing points much more nearly reflect the actual local conditions, because at those local stations everything that is shipped from the distributing point appears in the business of the local stations; everything that leaves the terminal points to any station in Minnesota, however small, appears in these figures, so that there is nothing that isn't covered, everything is shown; but to include the interstate business would distort and give entirely a wrong impression.

Q. By that you mean, for instance, that the tonnage statements of the Minnesota Transfer would show all the tonnage moving to states west of Minnesota, but received from states east of Minnesota that passed through the state?

A. Yes, sir; this statement covers the forwarded and received to and from the station; and if you included from Minnesota Transfer the forwarded and received, you would take everything that went from one end of the line to the other.

Q. That would not be a fair reflection of local conditions?

A. It would be so misleading it would destroy the value of all things, because most of this business either originating or terminating at a station in the country would be reflected at the terminal station and would be counted twice, and, in addition, the interstate business. The reason this is correct is that everything that is received, state and interstate, at the local stations is shown in that statement; and the passengers, whether state or interstate. It is not restricted to the merely state

business, it takes all the earnings, from whatever sources they come. That business might be forwarded from St. Paul or from Minneapolis, from Superior or Duluth, from Minnesota Transfer, from Grand Forks, from Fargo, or from any point—Sioux City, outside the state—and still it will be shown on the figures from the station in the state to which it went or from which it started, and the entire passenger receipts. That is what that statement means.

Q. Mr. Hill, last night when the adjournment was taken, you were discussing some of the elements of value in what might be called a going concern, such as the Great Northern railroad. Perhaps you had not concluded all you had to say upon that subject. For instance, is it a matter of time to build up an organization to run a railroad of this kind?

A. It is. A large system of railway is a matter of slow growth, and its business is a matter of growth as the conditions develop, and conditions change very often. It is a matter of very slow growth and of very close attention. I don't know any business that is conducted with more industry and patience than the railroad business. Everything that can be done to develop business and increase it is done, and in that way it is built up. The railroads even go so far, and have gone so far, as to try and build up the country to increase business.

Q. Well, what have you to say about the working force, the organization, from the top to the bottom of the organization of the Company? Is it a matter of time and difficulty to build up an efficient organization of men to conduct the business of the Company in a way to get the best results?

A. You might say that the methods in vogue twenty years ago would bankrupt a railroad under the present conditions. I often recall the last interview I had with Mr. S. S. Merrill. After he had a stroke of paralysis and recovered he came up to see me. He was not doing active business. I had known him many years (I think it is about twenty years ago, maybe nine-

teen), and he said, "I am older than you are; don't ever let anybody make you believe that the cost of moving freight will be below a cent a ton a mile, for it never will. Don't ever let anybody persuade you to run a car with the capacity of over 24,000 pounds." Now, we were in the habit of looking up to Mr. Merrill, and his general reputation in the country was that of a very successful and very able railroad man. But if he came back today holding those views and was but forty years old, he wouldn't be worth $3,000 a year to any railroad in America. That is absolutely true. We have had to educate our young men. As we have educated them on the Great Northern they have taken them away from us very rapidly; we have, I think, furnished presidents and vice-presidents to fourteen railroads in the country. It is a matter of very close study and hard work.

Q. Do you consider an organization of that kind an element of value in a railroad property?

A. Why, it is an element of value which can only be fairly measured by the results, and it really establishes the value of your property, because the value of a railroad is what it can earn; or, a better statement might be, what it can *save* out of what it earns.

Q. Is there an element of good-will, Mr. Hill, in connection with the business of a railroad company that has had a considerable history of successful management, which may be considered in this connection?

A. Well, maybe "good-will" would describe it, but I should think it would be the tendency of business, the trend of business towards the railway that is built up by it that is of very great value. The good-will of a corner grocery would be, I suppose, the facilities and reputation and business that came to it, but a railway is much more complicated and covers a broader field. People get in the habit of using a railway, and they are very apt to continue that habit.

Q. Do you consider that there is that element of value in the Great Northern property?

A. Yes, sir; and I think it is very great.

Q. Now, taking all of these considerations into mind for a moment, would you say that these additional elements which you have referred to add value to a property over and above the mere physical inventory-value of the physical parts of that property?

A. Certainly they would. If they didn't believe that, why should everybody connected with it be constantly straining every nerve to bring about this result?

Q. And that might be said, in a rough way, to mark the difference between a railroad that has had a history of success as a successful carrier and one that is entirely new, unknown and untried by the public?

A. All that work of building up would have to be commenced and carried on for a new road.

Q. Now, just one question on an item that is in this exhibit of Mr. Hogeland's: $3,240,178 is comprised in the present value of stores and supplies on hand in the state of Minnesota; from your knowledge and experience, can you say whether there is a reasonable necessity for keeping on hand such an amount of supplies and stores for the lines in this state?

A. That amount is rather under, I think, than equal to the average. We endeavor to keep the supplies and stock of material on hand as low as we can, because money invested in that is not drawing any income, so we keep it down to the actual necessities as nearly as we can. I think that that is a low figure.

Q. Now, I would like to direct your attention for a few minutes to the subject of depreciation. Are there certain portions of the physical property of a railroad that depreciate from use and the effect of weather and time?

A. Well, use and the effect of weather and time would apply

to everything. Some portions are affected by the weather and by time, and not so much by use. Take ties, for instance; ties rot in time, and the embankments upon which they are placed will wash away in time by the effect of the weather; and the locomotive and the cars and other articles that are in use will wear out under use; so it seems to cover the whole situation.

Q. Well, how is this depreciation taken care of, in practice, on the railroad?

A. Why, it has to be replaced or renewed.

Q. With this replacement and renewal, going on as it does, from time to time, what is the difference in value as an operating instrumentality of a box-car or a locomotive or a station building, that is properly maintained and renewed as necessity may require, as compared with an entirely new article of that sort?

A. Well, you take an entirely new locomotive, the first thing you have to do with it is (using a common phrase) to limber it up. It has got to be used a while before you put it into steady service. You have got to find out what defects are in it; very often it develops leaky tubes or a leaky boiler—we have had to replace boilers. After a locomotive has been in use, if you like, six months take one that would cost sixteen or eighteen thousand dollars, it is a second-hand locomotive; if you were going to sell it, it might bring twelve or fourteen thousand dollars, it would not bring the price of a new one, but for actual use, it has been tried and is better than an untried one. Now, cars, it is hard to say; experience has been such in the changes in capacity of cars that a great many that have been sold say, "knocked down," have been put out of service on account of their small capacity. An old 28-foot car would weigh from 20,000 to 22,000 pounds, built of lighter material, in ordinary use in switching in a yard would not stand the shock that a modern car would stand. When there was less to do in the yards and less switching, it used to be that a brakeman would ride the car

and set the brake as it was coming into contact with another car. It is a very rare occasion now to see a brakeman riding a car; they do what they call "give 'em a kick" and you will see it strike the other car. They have got to be made very strong. They are in a hurry. They are improving terminal yards, they have now what they call "gravity yards" where they run cars up a steep grade and drop them by gravity, and there are a lot of men that ride the cars and then they are trying to establish some way to get those men back to the hump where the cars are started, trying to get some kind of an automobile that will bring them back faster than they walk, because they often have to go a quarter or a third of a mile. The whole conduct of the business has changed so that many cars are put out of use, not because they are worn out, but because they became unprofitable or antiquated in form. Powerful engines are required; the old draft-rigger wouldn't hold a train together; it would hold fourteen or fifteen or twenty cars, but it wouldn't hold fifty cars, and accidents occurred by breaking in two.

Q. But a car or locomotive that still answers the present-day requirements and is properly maintained, isn't any less efficient or valuable, as an operating instrumentality, than an entirely new one of the same type?

A. Well, what you call a new car or a new engine is one that comes from the manufacturer. A great many of the cars are destroyed. We put a new car in its place, to take that number, to keep the numbers full. Well, for instance, if we took car No. 2000, (the even numbers are box-cars,) a man would know that 2000 was a box-car, but he wouldn't know whether that car was built six months or fifteen years ago until he had seen it. The car is kept up (we try to through a policy of "a stitch in time,") and the repairs of the car are kept up so as to keep it in good order. If anything is the matter with the wheels, they are removed; if anything is the matter with the running gear, it is removed; if the axles are not heavy

enough, there are heavy ones put in heavy wheels or new wheels; the boxes may have to be changed on account of the size of the axle; the boxes won't deteriorate, (that piece of cast-iron,) nor will the arch-bars on the side, but the wooden portion of the car does; and if it is the roof, it has to be repaired and kept tight; to do that takes new material; if the siding of the car is not in good order and does not keep the contents safe and dry, it has to be repaired so that it will, and that is done with new material. We have shops where that work is done constantly, and a large force of men doing it.

Q. What can you say as to the general condition—

A. I was going to say that that car does the same work that a car of the same capacity does that might have come from the shops yesterday.

Q. And therefore, as an operating instrumentality, it is equally efficient, equally valuable with a car which came from the shop yesterday?

A. It earns the same in money and takes the same place. Now, take a station, or a shop: our shop building, for anything I see, (except the other day I was by and noticed that the metal portion of the roof had to be painted in places that had blistered,) is as good as the day we moved in. But we are constantly making additions, putting in new machines (human ingenuity is developing a newer and better machine, that will do more work,) and we are taking out an old machine and putting in a new one, taking out a machine with less capacity and putting in one with greater capacity. So with the shops. While they are older in point of time, they are more effective and they cost more money as the years go by. I think our appropriation this year for new tools (and it wasn't as large as the officers of the operating department wanted) was over $100,000.

Q. Now, will you consider for a minute if there are any portions of the property that increase in value during lapse of time or what might be called appreciate?

A. Well, when I go back thirty years, I think the whole property has appreciated very materially. We havn't the same shops or buildings or road, or anything else.

Q. Considering perhaps the physical element in the right-of-way (the roadbed, rather,) would you consider that the roadbed during the lapse of time and the working of the forces of nature, has become more valuable?

A. Very much; it is more solid and more compacted, and the shrinkage is less. We try to get sod where the roadbed is wide enough, try to get sod grass; we have tried various kinds of grass to cover it, and to prevent the wash of the rains. The same thing, we have tried to prevent the wash of the slopes in the cuts. We used sweet-clover at one time, for it has a long root, and it held very well, but I think that they made a regulation, either local or state, that it was a noxious weed and we had to cut it out. In France they use the poppy, because it has a long root that runs into the ground. In moist places, willow is very good, (willow cuttings,) and they preserve the bank because the roots hold the bank together. But sometimes, on a high bank, in a wet spring, before the frost has gone out of the embankment, the outside two or three feet sometimes used to slough right off and slide down. The engineers used to make the slope 1½ to 1; of late years we are building 1¾ to 1; that is, 1¾ horizontal to 1 vertical. The angle of repose was supposed to be 1½, but the repose wasn't very perfect.

Q. Would you consider that the value gained through appreciation would offset more or less what value might be lost through depreciation?

A. Oh, the value of a permanent roadway is very great; it is hard to estimate it. When we go back twenty-five years, when we were paying much lower wages than we are, it cost us a cent and a quarter, or a cent and three mills a ton a mile to move the business, and we find that we are now receiving from the public three-quarters of a cent or a little more on an aver-

age. The difference, (bearing in mind the increased cost of wages, which I have estimated at about forty-seven per cent,) that reduction of cost, is due to better methods and to a better and more permanent railroad. The rates of freight in the United States are a matter of wonder to railroad men from other countries. A great many have come to our office, we have had them from Australia, the minister in charge of railways in India, a delegation from the German government railroads; from Great Britain, (Mr. Lawrence, a managing director of the largest railroad there, the London & Northwestern, has been here twice, I think), and the wonder to them is how we can pay the scale of wages we are paying and make the rates we do to the public. Well, if you are constantly repairing a poor road, if your embankment is indifferent and there is soft material and your road is poor, you can spend a lot of money. You have got to get it as permanent as possible, so our rule has been to try and do everything that we do of a permanent nature so that it will never have to be done again. We are not very successful in overcoming that word "never" but we aim at that.

Q. Well, then, considering all of these elements of depreciation and appreciation, would you say it was a fair statement that the Great Northern property, in view of the length of time that has elapsed since it was constructed, is more valuable, as an operating machine, as it stands today, than an entirely new system presently constructed?

A. Very much more valuable as it stands today; there isn't any question or room for any doubt about it. Anybody who knows anything about it would certainly come to that conclusion; there isn't any other conclusion he could come to, if he was in his right mind.

Q. Now, I would like to pass to the question, Mr. Hill, that has been considered by one or two other witnesses, and that is the additional cost involved in the movement of local business or short-haul business as compared with that involved in the

movement in so-called long-haul business. There is an exhibit in this case entited 53-Ward, introduced at the time Mr. Ward was on the stand on this subject, from which exhibit it appears, from the records and computations, that the average haul of freight business, local to Minnesota, for the year ending June 30, 1908, is 113.3 miles, and the average haul of all interstate traffic touching Minnesota, is 557.6 miles. Now, that average haul of the local business, 113 miles, would comprise, roughly speaking, the distance from St. Paul to Melrose, would it not?

A. Just about.

Q. And the average haul of the interstate business touching Minnesota of 557 miles would reach from St. Paul out into some place near Minot, North Dakota?

A. It would reach nearly across North Dakota.

Q. Almost to the western limit?

A. Yes.

Q. Well, now, does the length of haul affect the cost per unit for transportation or per ton per mile?

A. It does.

Q. Have you had occasion to consider, during your long experience, the relative cost per ton mile of handling short-haul as against the long-haul business?

A. On the long-haul business, the principal element of cost is keeping the traffic moving, to keep the car or train moving. The terminal expenses, the labor of receiving and loading, stowing, and the risk of damage, the use of the terminals, clerical hire, way-billing, abstracting, receiving and so on, is the same on the same sort of traffic or the same commodity, whether it travels a thousand miles, two thousand miles, or twenty miles. And then there is the greater use you get of your equipment. When I say the greater use, it travels more miles in a day. There are some questions in regard to long-haul and short-haul that are difficult to determine, because of the change that occurs in the movement of the traffic; and I think the average

would bear very little resemblance to the actual facts as they occur; you can make an average, but it is a mathematical question. But take it in Minnesota, on branch lines, for six or eight weeks during the season when grain moves, there would be a considerable business, from a half to three-quarters of the capacity of the train; you might occasionally get a train to its full capacity, but I don't think they would run over a half or three-quarters. That would apply for six or eight weeks. Then you would find a train that had a capacity of forty cars moving with twenty to thirty cars, and occasionally might go up to thirty-five or even forty, but not often. The rest of the time there might be from five to fifteen cars, and fifteen would not occur very often. Sometimes, when the business is so very light, we try to accommodate it by running tri-weekly, but in that case the wages have to be paid to the men whether they are working or not, and the agents and stations and all that expense has to be incurred. The saving is the saving in the cost of moving the traffic, and that might look to be small, but railroad earnings are made up of very small things. To illustrate what I mean,—I think there is no other business that is conducted on as close a margin. The entire dividend of the Great Northern Railway would amount to less than three copper cents for moving a ton of freight ten miles; the net revenue of three copper cents on a ton of freight ten miles would more than pay the Great Northern's dividend. And the dividend is all the owners of the property get out of it. It is a close question. We have to study every item of economy. Take from Willmar to Sioux Falls or from Willmar to Sioux City: now, that is through a well-settled portion of the state, as far as it is within the state, and a most excellent country in Iowa. That line would not pay if dependent on its local business; if it were not for the exchanges and the business at Sioux City, the line would not pay much above operating expenses. It would be a very poor investment. I don't think it would pay two and a half per cent on what it

cost; and it certainly would not provide any money to make any permanent improvements. What I mean by permanent improvements is to build a good, modern brick passenger station, that would cost $25,000 or $30,000 in a prosperous town to take the place of the wooden station that was built when the road was constructed.

Q. You said that the terminal expense is the same regardless of the length of the haul; you mean by that that the service rendered to the shipment of the same commodity is the same regardless of the distance the commodity is transported; and will you explain why there is a difference in the effect of the terminal expenses as the haul increases?

A. Well, we will take, to illustrate, a freight train, starting at St. Vincent, in the busy season when grain is moving, to go to Crookston or Redlands, which is just south of the Red Lake river; that train might get its load in the first twenty-five miles; it might get it in the first sixty miles, but if it did, some other train would have to haul the load from the last forty or fifty miles or seventy-five miles, so that a train picking up a load only gets its full load, taking the average, for half the distance. The capacity of the train might be 1500 tons, but it would not get the 1500 tons for more than half the distance, and so it would average 750 tons, and its pay would be limited by the number of tons it carried. And from Crookston or Redlands, if that train was going to Cass Lake and came in solid, the engine that took it on from Redlands over to Cass Lake, on its way to the head of Lake Superior, would get the solid 1500 tons, and the engine that hauled it from Cass Lake to Superior would get the 1500 tons, but when it got to Superior that division would be charged with the terminal service. This question of terminal service is not often understood. I think, as a rule, that we have in the Twin Cities more locomotives switching cars, more locomotives in switching service, than we have in hauling freight into and out of the Twin Cities.

Sometimes that difference is considerable. I think the last time I looked it up we had twenty-six freight engines hauling traffic into and out of the Twin Cities, and we had thirty-five switch engines. Terminal service is a very large item. Now, there is some short-haul business where you can find cases that the railroad would be much better off not to have it at all. Take, for instance, up here at Coon Creek, there is a brick yard; now, a carload of brick comes to Minneapolis or to St. Paul; it would take one or two days for the car to be loaded, it would take a day to bring it down; it would be very seldom that it would be loaded in one day; really it would take a day to get it there, a day to load it and a day to bring it down; and then (if it didn't rain) it would be unloaded in two days, because it has got to be set in a convenient place, on a team-track, and they wouldn't average quicker than two days. That would be five days. Well, now, that car would pay $10; it would pay $2 a day; but the ground-rent upon which the car stood in the yard would take a dollar and a half for the two days, at least that; and when I say ground-rent I mean the interest on the money invested in that piece of property. So that you get about $1.70 a day for the use of the car. That car is hauled and moved and after paying your trainmen and everybody else, yardmen, switch-engines, way-billing, reporting, everything else, you get about half as much as a man would get for driving a team or for a team's work. Now, your car costs twice as much as a team, and your hauling the stuff and all these additional men, taking the relation that it bears to other things, for that kind of work the road would be better off without it. Then the changes of the weather affect it. In the winter time we have one train, sometimes a passenger train, sometimes a freight train; you have a train in the evening passing over the road; you have got to keep the road open; we may have to run a big rotary plow with two engines to open the road, so that the cost in moving a unit of traffic, say a ton, would be enormously out

of proportion, a great deal more than it would if you were moving five or six trains over the road; and, take it as a rule, the business is moved when people want it to go, we don't own or control the time when they will ship it. The grain will move in the fall after harvest and before the close of navigation. In that case, we have to haul empty cars up on to those thin lines. When I say "thin lines" I mean thin in the business they furnish. We have to haul a great number of empty cars; a large proportion of all the cars moved are empty. When the lakes freeze, when winter comes, the same frost that froze the lake has made it rather cold out on the prairie, and the man wants coal; he finds out that he wants some coal and he has got to have it, and we have got to take it to him; and we have been for a couple of months hauling empty cars out to him that could have taken the coal, but we can't compel them to take it or to buy it, and the rule is very largely that we would have to move the coal out and then haul the empties back,—the situation is reversed. And after he has laid in a stock of winter coal, there is very little traffic of any kind. If it was as we would run, (not the heaviest type of locomotive), a smaller locomotive and crew would have a capacity, say, of thirty-five or forty cars; there might be three cars and there might be seven or eight; I haven't any average, but I think it wouldn't average on those branches over six cars. Well, now, the tonnage contained in these cars would have to bear the cost, and it would be practically the same as levying a frontage tax, the greater number of feet you had to distribute over a given number of dollars or amount, the smaller the proportion would be for each foot, and the greater number of tons you could distribute cars over the smaller the charge would be against each ton.

Q. Is that not true, that, considering the true terminal expenses, the greater number of miles you have to distribute the terminal cost over, the less per mile the cost of the terminal expense is?

A. Why, that is axiomatic. And the terminal expense is a much greater proportion than is generally supposed, and it is constantly increasing. My attention was particularly called to that years ago by one of the most intelligent men I ever met in railway matters, and that was Mr. Roberts, who was then president of the Pennsylvania road, and he showed me figures that the cost of loading a car at their stations in Philadelphia and switching it into the train ready for the road-engine to take out, was greater than the average receipts by the Pennsylvania road of hauling a car a hundred miles. Of course, that class of business, loaded at stations, is usually a higher class and pays a higher rate, but I think that, counting one car against another, a carload of coal or a carload of heavy traffic, where you get the full capacity of the car, comes nearer a fair compensatory rate than the traffic that is carried on estimated carload. Take, for instance, a set-up carriage; it has got to go on a flat-car; maybe it is estimated at 5,000 pounds; I don't recall what the classification does term it, but if that flat-car was loaded with lumber you would get forty or fifty thousand pounds, and the income would be larger in proportion to the weight.

Q. So, in considering the relative cost of a haul averaging 113 miles, as against the cost of a haul averaging 557 miles, the distribution of two terminal expenses incurred within the state over the haul of 113 miles, would be of prime importance, would it not?

A. It would be of very great importance, of course. The expenses would be as great as they would if the same commodity traveled a thousand miles or two thousand.

Q. Now, it has been stated, Mr. Hill, that of the lines of the Great Northern in the state of Minnesota a certain portion or percentage may properly be classed as main lines and the balance as branch lines; I think the testimony is that the lines from the Twin Cities to Breckenridge and the line from the Twin Cities to the head of the lakes, and the line from the head

of the lakes across the northern part of the state to Crookston and beyond, should properly be considered as main lines, and the balance of the mileage in the state as branch lines. Does that general statement agree with your judgment on the subject?

A. The business going to the west and northwest is sent over the Breckenridge line, because we have spent a large amount of money and reduced the grades to four-tenths of one per cent. The maximum grade there from the Twin Cities is 21 feet to a mile, and a heavier train can be hauled, and for that reason it is consolidated on that division. Between the Twin Cities and the head of the lakes the traffic is between heavy traffic centers. That tonnage is heavy, and the tonnage across from the head of the lakes to Crookston and so on, is heavy, *at times,* and it used to be that the heaviest, or about the heaviest, traffic on the east end went by way of St. Cloud and Fergus Falls. That business is now light, because mostly sent over the Breckenridge division, for the reason given, that an engine will haul a heavier train.

Q. There would then seem to be, if that is a proper classification of the lines, a larger percentage of branch-line mileage and service in the state of Minnesota than there is main-line service and mileage, and if I understand your testimony that, taking the branch line service into consideration particularly, there is a lesser efficiency, both in the equipment and the results obtained from engine and car efficiency, than is procured from that on the main-line service; would that be an important element in considering this extra cost in the state?

A. It certainly would. In the main-line business, where the traffic is heavy, the certain fixed changes are distributed over a greater number of tons. If we run two trains a day between here and Breckenridge, or six freights a day, there would be no difference in the number of station agents or their wages. Ties would not rot any faster and the banks would not wash

any faster by the action of the weather. The heavier the traffic —that is a well-established rule—the heavier the traffic the lower the cost can be made.

Q. Have you considered this matter sufficiently, Mr. Hill, to be able to express an opinion as to how much more—how many times more—on the average, the cost of the short-haul business in the state would be than the cost of the long-haul, as shown by these figures and your general knowledge and study of the conditions, on the Great Northern in this state?

A. It is very difficult to answer that question, because the conditions vary so much in the volume of the traffic moved at different times in the year and the local conditions, weather and so on. As I said before, if you have got to open a branch line with a snow-plow and two engines, the cost is greatly increased in the winter over what it would be in the summer when a single engine ran along. There are times when the cost would be five or six times as much, and it might be on a particular train, or for two or three days or a week or more; it might be eight or ten times; and there might be times for six or eight weeks where it wasn't to exceed twice as great. Now, to get at the average, it would practically require a thermometer record and so many things that it would be difficult to make it, but, speaking from judgment, I would say that from three to four times would be very low. Some people would say it is more, and it is very difficult to get at it, and what might hold good one year or one month would not hold good the next.

Q. Well, do you mean by that that there would in your judgment ever arise conditions that would materially lower that figure or percentage of three or four times which you express as perhaps a conservative figure, or do you mean that there may be conditions which would much increase that?

A. Well, if your business decreases, you can't get below the minimum service, you have got, as a rule, to give a train a day; sometimes, where we run a passenger train a day, we will run

the freight train, during winter months, three times a week, and then we can't load that train to over one-fifth or one-sixth of its capacity, but we have to pay the wages of the men and the station agents and the section labor; the road has got to be patrolled whether there are five trains a day run over it or one train a day.

Q. Now, will you consider the question of the passenger business for a moment? On this same exhibit it appears—

A. Before I leave that question, I want to be understood that my best judgment is that three or four times is conservative. I think it would cost more than that; but those figures are based on as close a study as I could give the question in the past. Now, if our tonnage is to fall off, if the production of tonnage in the country is to fall off, that proportion of three or four to one will increase in proportion as the tonnage falls off, because as we can't reduce the service below the minimum, and if that train could move forty cars a day, and move them the full length, it would be vastly different from if they are moving three or four or five cars a day or ten cars a day. Very often people have something that is perishable, and they want it shipped; we have got to take it whether they load the car or whether there is a wagon-load in the car; it has got to go to market. We have got to run refrigerator cars to carry butter and eggs and that sort of stuff sometimes when there isn't a quarter of a carload on the branch; we have got to furnish the facilities; and while we might have eight or ten cars, those cars in all probability, wouldn't have over a third or half a load. So a close investigation of that question is attended with so many varying conditions that it is hard to establish the actual cost, and I should be inclined to repeat just what I have said, that three or four times would certainly be within the mark under all circumstances.

Q. Now, it appears, Mr. Hill, that the average passenger haul in the state of Minnesota is 36.8 miles, and the average

interstate passenger touching Minnesota rides 133.8 miles within the state, or a relation roughly of four to one. Would you consider that there was an element of additional cost in hauling the local or short-haul passenger over the other? I mean the cost per mile per passenger.

A. In getting at the cost, you would have to take the cost of the train. The local train, as a rule would cost something less than the through train, because the local train might be a light train, two coaches and a baggage car; it might have three coaches and a baggage car; a through train would have coaches and baggage cars, eight or nine, or from seven to ten. So there would be more expense in hauling the through train because a heavier train; and the engineer and fireman would be the same, the conductor and brakeman would be the same. Occasionally there would be an additional brakeman on the longer train; but the cost of maintenance, the cost of renewals and replacements, —the banks would wash as much, the ties would decay as rapidly on the branch lines, if there was only one train a day or five trains a day; there would be a little difference in the wear of the rail, but after you had finished the trip, the number of passengers you had carried for fifty or one hundred miles would determine what it would cost you. Now, from long observation on those light-line trains, I think the number of passengers to the coach would average from six to ten to the coach, and if you had two coaches you would average twenty passengers; if that train cost you $1.10 or $1.20 a mile to run it with twenty passengers, it would cost six cents a mile per passenger; and we have a good many trains where the passenger cost is from 3½ to 5 or 6 cents or where the income is forty and fifty and sixty cents a mile.

Q. A train mile?

A. A train mile. Now, the cost per passenger would depend on how many passengers that train carried.

Q. Does the same element of two terminal expenses in the

state inhere in the passenger business as it does in the freight?

A. The service is different.

Q. Yes, it is fortunate for the passenger, perhaps, that it is, but there is the same two-terminal expenses?

A. Oh, yes; the same terminal. The character of the service is different. The passenger car has changed in the years, particularly in the West. They used to think that a plain car that was comfortable was all right; passenger cars in service west of Chicago or in Minnesota are vastly better, as anyone who travels in New England knows, vastly better and more modern than they are on the trains in New England, and I have never heard any passenger say that the railroad was indulging them in anything that was too comfortable.

Q. Then, if I understand you, if the average haul of the passenger in the state is thirty-six miles, there is involved the same question of distributing two terminal expenses, which would include perhaps the handling of baggage twice and selling the tickets, and the various terminal expenses, into the revenue from an average haul of thirty-six miles?

A. Well, there is the heating and the cleaning of your car. That is a considerable item; a car has got to be cleaned carefully and washed. And notwithstanding the cuspidors are on the floor, it is a very hard thing to keep the tobacco off the floor. The rule doesn't apply to passenger cars that does to street cars. The washing, the care of the car, the heating, the lighting, all has to be taken care of. A few years ago we had candles,—they were very safe,—the candlesticks alongside the car to light. On a branch-line, however light, we would not want to sit in a car lighted by candles. That branch-line service, hardly any of it, pays at all; most of it is done at a heavy loss. When I say "pays" it doesn't pay the operating expenses, it doesn't pay the cost of moving the train, without anything for the investment, in a great many cases.

Q. Are you able to express an opinion, Mr. Hill, as to the

relative cost per passenger per mile for this short haul in the state as compared to the average of all?

A. I don't know how I could.

Q. Do you recognize that there is a distinctly larger cost than for the long-haul passenger?

A. Oh, it will vary from twice in some cases to four times, just depending on the number of passengers carried in the train, largely. If the same number of cars are contained in the train every day, the cost of moving that train would be reasonably permanent and the variation would come from the number of passengers carried. The cost per passenger would be determined by the number of passengers carried; the number of passengers divided into the cost would give the cost per passenger. That varies so much that I wouldn't know how to make up those figures unless I went into a very long computation. I suppose it could be done. I have never done it except on particular trains for time enough to determine about what it would cost. We know every week the number of trips and the number of miles a train has made and how much money it has earned. You have the passengers and you can very soon see what it costs per passenger.

Q. That is, for the particular expenses of the train movement?

A. Of the train movement. Nothing for investment.

Q. Have you given consideration, Mr. Hill, in your experience, to the question of whether there is any feasible or practical way of figuring by accounts the cost of interstate tons or passengers, as against the cost of moving intrastate tons or passengers, or of dividing the operating expenses assigned to freight between interstate and state freight or interstate and state passengers?

A. I never knew any one who has attempted to figure that out. I don't know how they would approach it. Sometimes a car contains both state and interstate, and almost every train

contains state and interstate. Now, it would be so difficult and it would be such a refinement of accounts that it would be a good deal like trying to test the strength of a hair-rope by counting the number of hairs and testing the strength of each, and if the hairs were all of the same strength I suppose you could come to a conclusion that would better be arrived at by testing the strength of the rope.

Q. Well, in your experience, have you ever known of a system of accounts of that character kept by a railroad company?

A. No, sir; I have some familiarity with the system of accounts that have been kept in different countries. Those people who have visited us, to see what we have done, have often sent their accounts; I know what they are doing in Australia, South Africa and India and on the continent and places, I get their reports. I have never heard of any such accounts as that; I never knew anybody to attempt it.

Q. Well, can you state, in a word, just what the fundamental reason is why such a system of accounting would be of no value, if that is your judgment?

A. I can't imagine how you could start any such system of accounts, unless you started purely on an assumption; and if you started purely on an assumption and you knew where you wanted to land, all you would do would be to make your assumption on such a basis that it would give you your objective point; but it would not be of any value as a record that would tell any element of truth as to what the conditions were.

Q. Is it not a fact that the relative conditions of state and interstate freight on a given train would vary with each stop at each station to load or unload, the one or the other kind, and varying with each day of the weather and with every distance and different condition that might affect the movement of each train?

A. Why, certainly. It might seem strange, but we find reports where they have had to set out cars on account of head-

wind. Now how would you figure the effect of the head-wind, as between state and interstate, and all those different variations that people never hear of? Conditions change. An engine isn't steaming well; maybe in the winter time he got hold of some coal with an undue amount of black snow, snow that was covered with coal-dust, in the coal-pocket, but it didn't show in appearance different from the other, but, when he got it into the smoke-box, there was a different story and his engine didn't steam, and the next engine or the next train might have good coal; and how are you going to arrive at all those conditions? I don't know any way that it could be done unless you kept a staff of men and kept an account with each car and its contents and how it stopped and how it was loaded, and how many hours and minutes were consumed in loading it and checking and unloading and transporting, and when you would get through, I think you would have more accountants on the pay-roll than you had men handling the freight. And I don't know *then* that you could get it correctly, because there would be varying elements.

Q. And is it a fair statement, then, that that is perhaps the reason why such accounts have never been kept by railroads?

A. Well, I am sure that railroads endeavor to keep every account that is useful and that will throw any light upon the value of the service or the better way to get at the facts. They are being improved all the time. The improvement in the last fifteen or twenty years is very great. But I never heard of any such account as that. I know that railroads, if there was anything in it, would be very glad to adopt it but I never heard of a—

Q. Now, Mr. Hill, I desire to pass on to one other subject. It has been suggested that there are certain risks or hazards incident to the investment of money in a railroad property such (to illustrate with) as the Great Northern, or railroads of that character, in this part of the country. If in your mind there

are such risks or hazards to the investment, I should be glad if you would speak for a moment on that subject and state what you have in mind which might be called a risk or a hazard to the investment.

A. You can readily see, by any close investigation, that an investment in a railroad like the Great Northern in the state of Minnesota, is attended with more risk than any large investment in the state. You may take a bank, for the purpose of illustration. A bank has its money under its control; or, if it makes a loan, it has the security under its control; and if it doesn't like the business, if it doesn't find it profitable, it can close it and liquidate its assets and take the money and go into any other business. So can a manufacturer. A manufacturer of flour or lumber, or iron, or boots and shoes, or clothing, or anything he goes into, he can run his factory one day in the week, or six hours a day, or twenty-four hours a day; and he needn't run it at all, he can close it up and go out of business. So with a merchant. He can carry on his mercantile business as long as he likes and he can stop when he likes. When a railroad is built and the money is invested, it is built under the authority of the state and it carries an obligation to furnish a reasonable service to the public. That service *must* be furnished, whether it pays any profit or not, and you can't take up the rails, you can't abandon it. The public would ask the court to intervene if the service wasn't furnished, and the court would probably appoint a receiver, and receiver's certificates would be placed ahead of any security you had until the property was wiped out,—I don't know what the court would do then. But the risk is so much greater in railway enterprises, and it is constantly increasing, and that is the reason why railway securities don't command the prices they did.

Q. To what extent is the financial welfare of the railroad investment dependent upon the conditions of the crops, for instance, in a state like Minnesota? What bearing do those conditions have?

A. Why, the wealth produced in the state is very, very largely dependent upon the value of the crop; the ability of the people to buy goods, so that the merchandise going into the country—machinery commodities of every description—depend upon the ability of the consumer or user in the country to buy and pay for them, and his ability depends upon his income. Fortunately for the people on the land in Minnesota, the prices of grain have advanced in the last two or three years, particularly the last two years, because the consumption is overtaking the production. But the yield in Minnesota has very, very materially and steadily been reduced. That risk is hardly a risk; it is already an accomplished loss; it has passed from the situation of being doubtful to an actual reduction.

Q. And by that you mean the effect is apparent actually today on the Great Northern road?

A. Very, *very* apparent. That statement shows it, and we have the figures in the office that would convince anybody because it is there, it is a fact, it can't be gainsaid; it is true.

Q. Now, perhaps it may illustrate this subject if you would recur to the conditions in the fall of 1907 insofar as they affected railroads in the country generally. Would you consider these conditions as illustrating or having a bearing upon the question of the hazards that a railroad investment has to encounter?

A. What kind of conditions, sir?

Q. General conditions that went all over the country.

A. The conditions of the weather?

Q. No, I mean financial conditions that affected the railroads as well as other lines.

A. The destruction of confidence in business throughout the country, I think you can lay it to no other cause. Business practically collapsed. Business of every description, I think, ebbs and flows. The reduction, or the elements that caused reduction in the business and that culminated in October, began

to show themselves in May and June, but they did not affect the volume of business as soon as that. The effect on the volume of business, the explosion—the spark, you might say, that caused the explosion—was the failure of some banks and trust companies in New York, but the condition was ripe for what occurred, and all over the country it very soon made itself felt. I know I was in New York, and I was urgently called to come back here, that the whole business of the Northwest was at a standstill for there was no money to do it, no money to carry it on. I came back, and, as I said yesterday, I got the bankers together and we furnished what was necessary in order to move the crop. The farmers had worked a year to get it ready, and the crop moved, and moved very comfortably, moved out well, particularly after we got the blockade raised at Buffalo. I think that the blockade at Buffalo was largely due (and so I understood at the time) to the public service insisting that the railroads in New York should give a preference to the local New York business, that they should clean that up before they moved any freight that had accumulated in Buffalo from the West. Mr. Cortelyou went over to Washington and got the Interstate Commerce Commission to interfere, so that they agreed to move six or seven hundred carloads a day; but after the grain moved down there there was no further great delay. But the conditions here were as they have been before on such occasions, they had to have help, and we have always, fortunately, been able to come to their aid and help. I haven't any question at all but the difference in the price of grain, after the money was furnished, the difference in the price per bushel, was twice as much, or nearly twice as much, as we averaged for hauling it; but we were very glad to be able to do it, because if not, the business of the state would have been in very bad shape; the farmer could not sell his grain and get any money for it, and the business in the cities would have been in very bad shape. The wholesaler could not have paid his bills, and that money kept

turning and turning. It wasn't used for the purpose of carrying grain in elevators in the country and speculating; it was only paid-for grain that came to the terminals to be sold, and that money was turned over and over, very, very rapidly, and there wasn't any trouble. Just within three or four days from the time it was announced, business moved off, and the relative rates in the country advanced eleven or twelve cents a bushel.

Q. Now, what bearing do those conditions, such as you have described as stringency, have upon the earnings and welfare of the railroad?

A. Why, they reduce them very materially.

Q. That was true here in the state of Minnesota, on the Great Northern, as it was in other parts of the country?

A. Yes, sir.

Q. Do you consider that conditions of that kind—

A. When people stop buying, the commodities stop moving.

Q. And is the railroad subject to conditions of that kind from time to time?

A. Yes, sir.

Q. And the failure of a crop, that has a bearing, does it not, upon the income which a railroad can make?

A. Very material. It is not only the loss of the grain, but it is the purchasing power of that grain in different communities where the grain is raised.

Q. Now, in case of a private business, such as a manufacturer, a marked change in the volume of his business or of his income, he is able to meet by immediate reductions and a change in his outgoes; to what extent is a railroad able to meet a marked change in the way of a reduction in volume or income by a reduction in its expenses?

A. A manufacturer controls his factory, and the only expense he would be at would be his insurance and a watchman and the loss of income; but the railway has to furnish its service that is, it has to furnish a certain service, a minimum

you might call it, whether there is anything to move or not except the mails and two or three passengers or a dozen or fifteen passengers. And so with the moving of freight. You take it out on these prairies far removed from timber, they couldn't live there; how would they get their coal? How would they get their shelter? Oh, they might, they might get it, they did in earlier days in the history of the country, they traveled far to get fuel, but no large communities could sustain themselves.

Q. To what extent is the tonnage tributary to the Great Northern road in this state subject to competition with other lines, if you have considered that question?

A. Why, I don't know any tonnage in the state that is not tributary or competitive with other lines. There might be one or two stations on the Warroad line; there might be where you would think competition wasn't great, but the competition at Warroad or Lake-of-the-Woods is, in effect, with the water and the Canadian roads, so that the competition exists all the way through. The difference between the long-haul and short-haul applies. So you can't take the map and find a station, that I can recall, where there is no competition.

Q. In one form or another?

A. Yes. Then there is always the competition that after you have built up a country and made it productive somebody else will come in and divide it with you. That is a risk. We have carried passengers and settlers into the Red River valley in order to get them on the line and when the selling price of the land was five or six dollars an acre we rebated, I think, half the price for every acre they would get under cultivation within a given number of years, so as to get settlers in there; and it wasn't many years until those people were even willing to vote bonds to get somebody else in there; but after I pointed out to them what the result inevitably would be, they haven't been very much in the habit of voting bonds. We bought a number

of roads; we bought several roads where bonds had been voted and the enterprise started and grading done and that sort of thing, and when we completed them and earned the bonds, we gave them back to them and told them to burn them and not sin that way again.

Q. Well, would you consider, Mr. Hill, that there was any element of monopoly in the business of the Great Northern in this state?

A. Why, there isn't anywhere, that I can recall a single instance, where there is any monopoly, where the business is not competitive, and largely so.

Q. Do you consider that the business in this state has any of the characteristics of a monopoly, in that sense?

A. Well, all railroads have a monopoly of carrying passengers, as against a stage-coach or against going afoot, but so far as the exclusive right of carrying commodities or carrying people, they haven't any. They can go by one road or another.

Q. Under those conditions, would you say, therefore, that in considering what would be a fair rate of return upon railroad property, such as the Great Northern in this state, it might, and properly should, earn a greater rate of interest than a business which was a distinct monopoly and was not subject to the influences you have referred to?

A. If it was true that a railroad by any authority was forbidden to earn any more than a banker or a manufacturer earned, and that fact became known, I don't think you could get anybody to invest in railroads in Minnesota. In fact, there isn't anybody *now* that on account of the business in Minnesota is making any investments of that kind. They may be seeking an outlet for business from somewhere else.

Recess until 2 o'clock P. M.

AFTERNOON SESSION.

CROSS-EXAMINATION.

By Attorney General YOUNG:

Q. There are just a few questions in relation to your testimony, Mr. Hill, on which I wish a little further explanation. You spoke yesterday, in comparing the capitalization of English and American railroads of the high capitalization of the English roads as compared with the capitalization of the roads in this country and stated, if I remember right, that the primary cause for the large capitalization over there was because all permanent improvements made upon the road were paid for and required, by the law of that dominion, to be paid for, out of capital, while that was not always true in the operation of railroads in this country. Is that correct?

A. If my testimony reads that way, and I don't think it does, it does not express what I mean.

Q. Well, just kindly state what you had in mind on that question.

A. The capitalization of English roads has been increased, as a rule, very largely from the fact that improvements or additions to the property have been largely supplied by new capital. I recall, I think, when their average cost was $235,000, some years ago; now, the latest is something like $285,000 a mile. My attention was called to it years ago, particularly by a contest between the large holders of stock in England in the Pennsylvania road. The Pennsylvania road, Mr. Roberts was then president, were dividing about half of their net earnings, after paying expenses, interest and taxes, sometimes a little more, and the English stockholders wanted it all divided. Mr. Roberts didn't agree with them and thought there were so many things to do and so many portions of the road that would have to be rebuilt and new equipment acquired, that the road couldn't afford to do that, and my attention was called to it in

that way, and I have met a great many of the English railway officers since. They have carried it so far that railway stocks that sold for very high prices, 200 per cent or more, are now very much lower and their changes would be very expensive and very slow and it is a problem that the nation is up against. I never knew that that was done through any law, I think it is a custom and not a law, I never understood that there was any law.

Q. Well, you suggested, I think, that the comparatively lower level of capitalization per mile in this country arose from the fact that habitually the railroads in this country accumulated a working capital out of which, when improvements had to be made, they were paid for from the treasury, which kept the capitalization down. Is that correct?

A. Yes, sir, that has been largely the practice. Sometimes that working capital is supplied by the surplus in prosperous years, and sometimes it is supplied from the sale of securities, but mainly from surplus.

Q. An illustration of the feature that you had in mind was shown by the Hauser dam loss?

A. Yes. Well, that followed within two or three days by a cloud-burst that raised the water throughout the mountainous portions of Montana. It washed part of our road out, it washed the Northern Pacific, and washed I don't know how many miles, I think several million yards, on the Milwaukee & St. Paul's new construction.

Q. The reconstruction of that dam, as I understood your testimony, was paid for out of the treasury of the Company?

A. Yes, sir; but the money in the treasury, some of it, was from the sale of stock, and some of it from earnings. We have not shown so large a surplus in the last few years, or in the last year, that is, the year ending with the last report.

Q. There is, however, on your road, a system of accounting whereby you transfer to a fund for renewals and permanent im-

provements, each year, to which you transfer a certain portion of the annual earnings?

A. We commenced, I think, among the first roads to do that, and we have transferred, as a rule, what surplus we had or could afford, to that account.

Q. And you have had, from year to year, a considerable sum in that account, and that constitutes what you had in mind, to some extent at least, when you referred—

A. To some extent; yes, sir.

Q. —when you referred to your working capital?

A. But that surplus, in many periods of two or three years, would not be sufficient to meet the demands that we would be called upon to meet, that would have to be made from other sources.

Q. And out of the fund is that class of improvements to which would not literally belong the class of operating expenses, as I understand it?

A. Well, now, for instance, as a town grows, you want additional facilities, you want a new passenger station where the old combined freight and passenger station would not be sufficient to accommodate the business, structures of that kind, new shops, shops at division points, new tools in the shops; and a very considerable change in the country has occurred through the cultivation of the lands and the drying up of ordinary watercourses. We used, for instance, to get a supply of water in a well; then we would find that well would not yield enough water for five or six or eight trains a day in each direction. In the very quiet season, or at certain times in the year when the melting snow percolated through the earth, there would be sufficient water, but water that was there three months ago which is not there today, when we come to move the heavy business in the fall, wouldn't help us any; we had to have water. We thought we could do that, and were successful, for a time, in building wells. We started in to build them twelve feet

long and then made them twenty-four feet long and eight or ten feet wide, and we got them up to thirty-six feet long, and it was an improvement, more water would find its way into the larger well than into the smaller one, but for some reason the water supply began to fail and we had to build reservoirs. We had to take a stream or the location of a stream where there was large natural drainage and commence in the dry season, when there was no water there, and excavate. Our present standard, I think, is 250 feet wide, 300 to 350 feet long, and eighteen or twenty feet deep. They cost from $40,000 to $60,000. And then we let the water come in in the spring from the melting snow that runs through the valley or stream and fill it, and in that way we will carry from year to year a supply of water, and very good water. In some places, in the wells are carried in solution earth-salts and encrusting solids, that are very bad for the locomotive and cause our repairs to be very heavy and the expense of washing out. Very often, in the western part, particularly in the winter, and where we take the water from the Milk river or the Missouri river, when it was very low and the proportion of these substances was larger than when clean fresh water had run in in the spring, we have had to wash out a locomotive every trip; that is, when the locomotive would run 100 or 125 miles, we would have to wash it out, and that is a good deal of a job. But we overcome that by the supplying of melted snow-water, and keep that and carry it through and in that way we reduce the cost of keeping up our engines and the number of engines we have to use, because if an engine has to be cooled and washed out every trip, you can't turn around and send it back again. But in all that class of expenditure we couldn't go to the capital, we couldn't sell bonds every time we wanted to spend $100,000 or $500,000, if we did we would soon have the twenty-fifth and twenty-sixth and thirty-fifth and thirty-sixth mortgage and people wouldn't buy them.

Q. That is what I wanted to get at—how those things are paid for. They are paid for out of this surplus fund reserved for that purpose?

A. That is set apart—capital, you see, under the ordinary rule of keeping your accounts. The Interstate Commerce Commission prescribe rules, and then if you change your system of keeping accounts you interfere with your comparisons, and then you have to start over again; and there are two classes of people who are interested the man whose interest is to draw dividends (and he lives a thousand or fifteen hundred miles or more away from the property) he would like to see the best showing that you can make, and on the other hand, the man who has no interest in the property except to get the use of it at the lowest rate, he would like to have it at the other extreme; and the safe course is for us to go on and do what is necessary to do to improve and keep the property up to its standard, and what is left is a fair profit to divide.

Q. You referred in your testimony to a great many things that were done habitually, after the construction of a railroad is finished, toward the betterment of the grades and the filling up of sags and various forms of improvement of the grades and the track generally. How is that expense paid?

A. Well, in some cases we use as far as the fund for improvements and renewals would carry it, and in some cases by the sale of stock, but the Great Northern, as a railroad, itself has never issued any bonds.

Q. You have assumed the bonds of the Manitoba?

A. Yes, sir.

Q. And some of the other small—

A. Yes, sir; other lines that were independently built. But the Great Northern has made those improvements from this fund for permanent improvements and renewals and from the sale of stock.

Q. Could you tell to what extent those improvements were made out of capital and to what extent out of surplus?

A. It would be very difficult. I don't know that there is any separation of the accounts that would show that. We might possibly, (and I don't know that we could,) show how much was the amount paid for these permanent improvements all over the system, and how much was appropriated from surplus earnings towards that and the difference would be made up from the stock. But that would apply to the whole system.

Q. Of course, in addition to these improvements of the road-bed and track that are made on what might be called a large scale, there is constantly going on a work of improvement in the track by means of the labor that is being expended upon it by the section crews?

A. Well, the section crews properly do not make much improvement in the track—very little. That would be, you might say, confined to the push-car work of the ditchers, but they are very apt to unload it at the mouth of the cut and get rid of it as soon as they can, and the embankment becomes too wide, rather than to carry it farther, but it is done by extra gangs and work-trains largely.

Q. When a depot becomes antiquated, either by depreciation, or because the business has outgrown its capacity and a new one is erected, that is paid for, is it not, out of earnings, as a rule?

A. Well, sometimes. That is at local stations that would be the rule. Take a terminal depot, a terminal station, a plant, for instance, like Spokane Falls, that would not.

Q. That would be built out of capital?

A. That would be built out of capital. Or, take the improvement here between St. Paul and Minneapolis, or through the city of Minneapolis, when we sunk a grade and put in all the bridges, I think the expenditure there was between two millions and two and a half millions of dollars, the improvement could not be made from the surplus, from earnings, because it would not go far enough to cover it.

Q. To the extent that it would apply, to the extent that you had a surplus on hand, it was used for that purpose?

A. Yes, sir; that amount as appropriated to that fund appears in our annual reports.

Q. That is, the amount that you appropriate annually to the fund for—

A. For permanent improvements and renewals—that is in our published report.

Q. Your published report, however, does not show, does it, the amount expended each year and the place where expended within the state?

A. Well, if there are new buildings, it reports the buildings and the general character of them, but the reference to a new work, like widening banks and bringing up sags, work of that character, that is described in a general way in the reports, but not specifically in localities.

Q. And this surplus fund which you carry in the treasury is carried for the purposes of the entire system?

A. Yes, sir.

Q. You have no special fund kept for the purposes of improvements and renewals in Minnesota?

A. No, sir.

Q. Nor work that might be called rebuilding a road, that is under way, such as the work done between St. Paul and Breckenridge within the last four or five years, extensive reconstruction work on the system. Now, it is true, is it not, that the crews that are employed in connection with that work, and the trains and the expense arising from their operation that are used in that work, are charged to operating expenses?

A. No, sir; they are charged to the work. There was some very heavy work on that road and it would be very difficult to separate it. The steam-shovel work and the heavy work could be reasonably separated, but where the floating gangs went along and occasionally material (gravel or earth), was un-

loaded for widening or raising the banks, that same crew might one day be hauling material out of a cut and the next day be hauling gravel from a gravel-pit over towards Spicer beyond Willmar. It is very hard to fix these details. Of course, the entire work is under the direction of the engineer and is correctly summed up in the end and the money has to be accounted for that is spent in it.

Q. And the expense of that work is apportioned, is it, between new construction and what legitimately belongs to maintenance?

A. Well, apportioned between maintenance and improvements and renewals.

Q. Well, now very much of the work which is classed as maintenance, results in producing a very much improved condition of the roadway, does it not?

A. Well, if all the work for maintenance was simply to maintain the property in the condition it was originally in, that would be one thing and if the improvements that have occurred (and we think necessarily) were to be counted as maintenance, that would show a different result. The latter costs much more than the other; but with the old road simply maintained as it was, it would be entirely out of the question—

Q. To do business?

A. —to do the business we have to do now at the rates we have to get.

Q. And you understand maintenance of the property to include not only keeping the property in the condition it was in when you began its operation, but also keeping it in a condition where it is capable of doing the increased amount of work?

A. We have to meet the demands made upon us for transportation, both freight and passengers, and the old road, built of the local material taken from the side of the grade or from local cuts and put into the fills, would not be sufficient; the rails and the whole plant would be too light to carry the modern machinery, and we have to increase it.

Q. Yes, there is no question about that, but the thing I wanted to get at, if I can, is just how far does the rule relating to maintenance extend. That is,—

A. Well, it covers beyond the maintenance of the property as it was originally constructed.

Q. Yes, and covers, does it not, keeping the property up to that condition of efficiency which is necessary in the growth of the business and the growth of the country?

A. You have to keep the property where you can meet the demands that the business makes on it, and those demands have been constantly increasing.

Q. There is no question about that—

A. Yes, sir.

Q. —but the improved condition of the road, to which you referred in your testimony yesterday and I think to some extent this morning, and which by reason of the lapse of time and the extent of this work that was carried on upon it, made it so much more useful as an operating tool, was produced to a considerable extent by the expenditure of money arising from earnings under this process of maintenance to which you have referred?

A. That amount appropriated from income that has gone into the improvements, the gross amount, would appear in the various annual reports and would be correct. That is, covering the entire system; the report covers the entire system.

Q. I understand you as to that, Mr. Hill, that the amounts appropriated annually to the fund for permanent improvements and renewals would show the amount used out of earnings for that class of improvements which are distinctively permanent, but what I wanted to get at was whether or not there was not annually spent, out of what strictly belongs to operating expenses, especially that part of it designated maintenance of way and structures, which went to building up the value of the property as an operating tool.

A. Well, that would be very hard to divide. I think maybe I can make it clear. After paying operating expenses and taxes and interest on the bonds, all the money, except the dividends, has gone to improvements, all the earnings has gone into the property except what has been paid to the stockholders as dividends.

Q. Yes?

A. And the stockholders have, from time to time, furnished more money by buying more stock.

Q. And that money was used mainly for extending the lines or constructing branches?

A. Yes, sir; both.

Q. But, irrespective of the fund into which you transfer your surplus after the payment of your dividends and taxes, and under the head of operating expenses, distinctlvely, there is carried this item of the maintenance of way and structures; that is, in other words, you have, under the head of operating expenses, an account or a division known as maintenance of way and structures; you have, in addition to that, a fund for what is known as permanent improvements and renewals, and the fund for permanent improvements and renewals is made up of your surplus earnings after all expenses have been paid and dividends and taxes have been disposed of, while the expenditures arising under the head of maintenance of way and structures were taken out before the amount of the surplus is ascertained?

A. Well, the maintenance of way and structures—in that account, if there was no other money spent on the road—would, speaking in a general way and from my general knowledge, without having made up the accounts specifically, I think I may say, in fact I feel very sure, that the amount as shown in maintenance of way would not keep the property permanently in the condition that would be necessary in order to meet the demands upon it. It would take more money. The Interstate Commerce

Commission provides some conditions as to our accounts in that respect. They say that certain articles of renewals and certain items (I don't recall the specific items, but it is a printed circular and is easily obtained) they designate as to how these accounts shall be made up. They apparently recognize that in the maintenance of way and structures and in the maintenance of equipment, the ordinary method of keeping accounts has not shown a sufficient charge, they want a further charge to be made for renewals or maintenance; but there is a circular on that subject, it is a printed document and quite easily obtained.

Q. I have seen that, Mr. Hill, but what I want to get at—You stated a moment ago (I think correctly) that under the head of maintenance of way and structures—that being one of the items of your ordinary operating expenses—there is somewhat more money spent than would be necessary to keep the railroad in the condition in which it was when you began to operate it; that is, under that head alone there is money expended which has improved its condition somewhat, but the amount expended under that head would not of itself be sufficient to keep the road up to the necessities of the increasing business, and it is for that reason that you have kept this additional fund for permanent improvement and renewals; isn't that correct?

A. Hardly. The condition of the road after being constructed and when it is put in service is very imperfect and temporary, and if we did not improve it it would soon deteriorate and go to pieces.

Q. I am not finding fault with your improving it—

A. No, I understand, but I am speaking of this simply as a fact—we have got to make that improvement. The rails would be badly bent and accidents would follow and a great many things. We can't stand still and maintain it as it was originally built, because a new road is constantly changing, and you have

to make these expenditures, and the ordinary amount charged to maintenance. For instance, if you took up a fifty-two pound iron rail and laid an eighty-five or ninety-pound steel rail, you have added to the property and that would come under permanent improvements; if you took out a Howe truss bridge and replaced it with a steel bridge, that would be a permanent improvement to the extent of the difference between the value of the Howe truss bridge and the value of the steel bridge, there would be that much new money invested in the enterprise; but we knew, when we build a new road, we couldn't haul, except at great expense, the metal steel bridges and generally used wood, and at the end of six or eight years the like of the Howe truss bridge was renewed by the other, when we had a railroad to carry it in. Otherwise, we would have to carry it by team, and in some places it would be impossible, and in other places would be attended with a great deal of expense and delay.

Q. And that class of work is what is included under the head of permanent improvements and renewals?

A. The railroad has either got to get its money from a creditor by borrowing it, or it has got to earn it; it has no other means of getting money.

Q. Doesn't it start out with any money?

A. It doesn't inherit any.

Q. Doesn't the company invest money, originally?

A. Oh, certainly, certainly. Well, the money that it gets it borrows from the stockholders. The Great Northern has invested large sums but it has never issued bonds.

Q. Of course the corporation borrows it from the stockholders and it issues stock?

A. Yes, sir.

Q. So it is really a borrowing proposition from the start?

A. Yes, sir.

Q. Now, under those circumstances, Mr. Hill, would it be possible, at the present time, to say just how much of the ex-

penditure that has gone into the production of the Great Northern Railway in this state, in its present high state of efficiency, has been invested by the Company out of capital and how much of it has been derived from earnings?

A. It would be very difficult to divide that. I don't know how it could be divided, in this state. The work can be shown approximately from the Company's records after 1879, as to the quantities of material used in the state in construction and reconstruction, but how much of that would come from capital or how much from surplus earnings, it would be very difficult. But the total amount that has come from surplus earnings for the system can be shown quite readily from the reports, because that is all set out in the reports, the entire amount that has been expended for permanent improvements and renewals is shown in the annual reports.

Q. But the actual amount of betterments that have resulted from the expenditure of the money classed under the head of maintenance of way and structures, which is a part of your annual operating expenses, could not be ascertained at all, could it?

A. Well, the renewal of a bridge—the permanent improvement would be the difference between a wooden bridge and a steel one, say the difference that it would cost to replace a bridge with a permanent steel bridge over the cost of replacing it as originally constructed with a wooden one. That is to illustrate the difference. Now, the same thing would apply to the weight of rails and to stations and shops and cars and enlargement of cars. Under some of our mortgages we have to keep so many engines and so many cars assigned to the property covered by that mortgage. The mortgage does not define the size of the engine or its cost or the size of the car or its cost, but those engines and cars are the newest and most expensive. We have bought freight engines, I think, as low as $6500; now, we pay seventeen and eighteen thousand dollars for them, but,

up to twenty or twenty-two years ago, I don't think we had a freight engine on the road that had more than 60,000 pounds on the drivers, now we have them with 300,000 pounds on the drivers, it is not the same kind of an engine.

Q. You have been obliged, on account of the system adopted by you, of putting into service the best equipment that you can get at any given time, to discard antiquated engines and cars because of their proportions and their incapacity?

A. Yes, sir.

Q. When a car is thrown aside because it has been found to be too small for profitable service, or when an engine is abandoned because it has not sufficient capacity for modern service, out of what fund is the new car or the new engine paid for that replaces it?

A. It would be shown on the cost of equipment. We have made it a rule to preserve our cars, because we are rather a modern road in the time of our expenses. I think that somewhere between seven and eight hundred covers all the twenty-eight foot box-cars we ever had, and we have at the present time, I think, twenty-five thousand or twenty-six thousand box-cars, so that the small box-cars we have strengthened, and we use them in service like branch lines where the load is not heavy, and in some cases have taken the bodies off and made stock cars, because the weight of the load of stock that the car carries is comparatively light and we have made work-cars of them, that is, like tool-cars. There is a recovery, varying with the cost of material, from all cars and from all engines, from the materials, the scrap, and so on.

Q. And that is credited to maintenance of equipment?

A. To maintenance of equipment.

Q. And the cost over and above that, is taken out of the fund for the maintenance of equipment?

A. Well, that fund for the maintenance of equipment has largely come from the capital of the ompany from the sale of stock.

Q. But to some extent it comes from earnings?

A. Well, it would be—I think that the entire appropriations—and that covers not only the sum that is appropriated in the annual report but all other sums except the working funds the Company has, everything that has not gone to the stockholder by way of a dividend, is in use in the property, used by the public. If the road earned, in any year, twelve or fifteen per cent, the stockholders, at the present rate, would get seven; that is all they would get, and the rest of it has gone into making improvements—and we have a great many improvements to make all the time to improve the property—so the earnings the public get.

Q. You have a fund or a sub-division of your operating expenses designated Maintenance of Equipment?

A. Yes, sir.

Q. And of course whatever is paid for the maintenance of equipment out of that fund is exclusively out of earnings, because all of the operating expenses, properly so-called, are taken out of earnings?

A. It is meant to be and should be.

Q. Now, suppose a car is destroyed in service, in a wreck, for instance, or several cars should be so destroyed, out of what fund would the expense of replacing them be taken?

A. That car is charged up to renewal, and has to have a car replaced. When we get a new car we fill the number of that car with a new car.

Q. And that new car is paid for out of the fund designated Renewal of Equipment?

A. Sometimes, and sometimes in that fund we might not have enough money to make it and it would come out of capital in that case.

Q. So that there is no absolute, hard-and-fast rule, on that question?

A. No, sir; but in the main, if there is any money in the

fund for the renewal of equipment, the car would be paid for out of that fund. Our rule is stated clearly in our annual report.

Q. Yes, I understand your rule. I am including in my questions, Mr. Hill, or intending to include in them, the money which is used under the head of operating expenses for maintenance and renewal of equipment, and I have not in mind particularly any fund outside of operating expenses carried specifically in the renewal and equipment fund, because I think the fund outside of operating expenses, which you carry for the betterment of the road, is carried under the head of Permanent Improvements and Renewals, is it not?

A. Well, it is meant to be, but that does not keep pace with our requirements for improvements and renewals. It covers as far as it goes, and the same rule would apply to the other. If we hadn't the money—

Q. Well, you would always have money from the earnings to pay for operating expenses?

A. Oh, yes, to pay operating expenses.

Q. But what I mean is this, the renewal of equipment you have paid out of operating expenses under the head of Renewal of Equipment?

A. Well, it would be charged—Suppose it was an old car, we would charge the value of the old car, and if it were renewed, if it was an old car worth five hundred dollars and the new car cost eight hundred dollars, as a rule five hundred dollars would be charged to maintenance of equipment and the other to additional equipment, because the old car might have a capacity of 40,000 pounds and the new one a capacity of 85,000 pounds. We try to keep that as nearly as we can. It is very difficult to keep it exactly, but we try to keep it, as nearly as we can, on exact lines.

Q. The reason why I have been asking you these questions, Mr. Hill, was I wanted to ask you the general question as to

whether you subscribed to the proposition, which has been advanced in this case, that the proper basis for the computation of rates or the proper basis for the computation of income for a railway should be the cost of its reproduction at any given time.

A. You are asking me a very hard question to answer.

Q. I know, but you are capable of answering hard questions.

A. I would like to answer if I could, and very fully; but if we approached that question on the ground that we do other investments—If I bought that corner and I paid $5,000 for it, I don't know any reason why I would be compelled to sell it for $5,000 twenty-five or thirty years later when anybody would care to give me $5,000. I could take the risk and I would be entitled to get what it would sell for and nobody would think of questioning my right to get that. Now, the question of the reproduction of a railroad like the Great Northern seems to me a very difficult problem. You take so many years to reproduce it in the condition it is, and if you wiped it out today I don't think you could ever reproduce it; I don't know how, on the face of the earth, we could get the terminals that we have, because other people would be on them over night; I think I would be very slow to reproduce it or to ask anybody to help me to. But if the money is invested in a railway, bearing in mind the service that it is obliged to render, bearing in mind that it has to take all the risk of its making any net earnings, and, in new country, like this, of building up the country, and of the country's maintaining its ability to sustain its productivity, its fertility—all that risk is taken by the railway, and you can't draw your money out, you can't close it up as you would a mill or a factory or a store or a bank or anything else, your investment is there, and you have to prosper with the country or be poor with it and suffer with it, whatever its fortune is is your fortune, and you take all of the risks, not only the merchant's risk, the manufacturer's risk, the farmer's risk, the lumberman's risk, the risk that if the fire sweeps the forest

and burns it down that much tonnage is gone and that you would have to wait a long time before the trees would grow again. And so it is that you take the additional risk—maybe I feel more sensitive about that because I have a reasonably good memory—in trying to build up the country north of here, when we were competing to get settlers into that country, the Chicago lines had to move them here but they made as low a rate to Aberdeen or to points out in the Jim River valley as they did to St. Paul, and when we wanted to take a passenger or a settler into Northern Minnesota or North Dakota and he could go at the same rate out there and find what their agents called as good land as ours, we either had to carry him for nothing (as we did a great many) or meet their rate; and how in the world to overcome that situation was a great problem. We built six freight steamers and put them on the lake (the largest ones at the time ever built on the lake); then we built a line out to Aberdeen and we built a line down towards Sioux City in their country, and after a while we were able to show them that there were two sides to that question. I remember very well the rate proposed was $1.05 on first class from New York to St. Paul by the way of the lakes, and I think it was fifty cents for fifth-class. I told them I thought that they would not maintain that rate and it would be better to fix it at some rate that they would maintain. "Oh, yes, they would maintain it." I said, "If you do, we won't be stubborn about it." I think we wanted a ninety-cent rate, but I remember we started in in the spring, and by the first or the middle of June, the rate was down from fifty cents to twenty cents. We told them if we had to maintain these rates and establish them, we would simply follow the rate that they made and if they reduced it we would establish the reduction and then that would be our open rate. Along in the middle of June the rate was down to about twenty cents on fifth-class. They came up here and thought "that nonsense" had gone far enough and that they must restore the rates, and

thought the time had come that we ought to get together and restore the rates. I said, "I think you will recall what I told you, that we would keep the rate what you made it, and that it would remain until the close of navigation," and we enforced that rate to the close of navigation and they put up their blinds and went out of business here for the rest of the season and then the next summer they came back and wanted to establish rates and we said, "Then you must open your territory from here south to the Iowa line, so that goods can be distributed from here; that now you have forced us to do this, we have an interest in bringing goods from the East and we want to distribute the goods that we bring from the East down over the southern part of the state." Well, when I look back at how localities have been built up and bear in mind that after doing it—Take it up in the Red River valley, the question of drainage, we made the first map and furnished the engineer that made the topographical map, at considerable expense, so as to enable the farmers to make drainage districts—Now, I am traveling outside of the record, but I want to give you my mind a little, I will show you why I hold the views I do—

Q. Well, go on.

A. After the legislature refused to allow those farmers to create drainage districts and issue bonds—because they said there was a lot of railroad lands up there and it was our scheme—well, our lands were sold, but we offered to pay taxes for drainage purposes on any property we had there, whatever that drainage tax would be, and it was years before they would allow them to, and finally we subscribed twenty per cent. The state put in $100,000, we put in $25,000 to start with, with the condition that our engineer should be one of the commissioners to see that the money was not wasted. I think it is reasonably well within the memory of people living here, certainly it is of the people up in the Red River valley and it is in mine, that the Governor thought very seriously of vetoing the bill, but

after a few of those streams were opened in the Red River valley and the surface-water allowed to run off, there was hardly a man in the capitol that was not up there bossing the job, and taking great credit for it, and they have been from that day to this. Now, that was originated in our office; and when I think of our efforts in that direction and then bear in mind the fact that, having done that, anybody else can come in when we have built the country up and got it productive and so on, and build another railroad anywhere and take a share of the business, sometimes I think that there are two sides to the question that you ask and to answer it from one side I might be prejudiced one way, and to answer it from the other I might be prejudiced the other way. (Laughing.)

Q. Well, the thing is that an investor in a railroad enterprise is really entitled to a fair and reasonable income upon his investment, isn't he?

A. Well! Is there any investment guaranteed to him?

Q. I think, if you want me to answer that I might talk as long as you did to answer my last question.

A. All right.

Q. I think it is the only business which can compel the public to pay him a reasonable income and the only business where the courts will step in to protect him from being compelled to do business at a loss.

A. I don't want to be argumentative, but the other man is not compelled to do any business. The railroad is the only business that is compelled to do and perform the service whether it pays or not. If it is an unreasonable rate in the opinion of the court he must drop the rate and lower it to what is a reasonable rate; and, on the other hand, if it pays no profit, he is under obligation to operate it, and I *think* that any examination of investments of a large kind would show that the railroads in the United States have not earned, as a rule, half the return that other chief investments have earned.

Q. I am afraid we would differ on that, Mr. Hill, and it probably would be a waste of time—

A. But I think the fact is not difficult to obtain, I would undertake to furnish it if it is needed.

Q. I don't care to argue it with you, but if it were necessary to comment on the matter, I think that the list of inordinately wealthy men in the United States would be of those who have made their money out of railroading. But what I wanted to get at particularly, Mr. Hill, was whether you consider it fair to take as a basis for income, upon your railroad, for instance, that portion of the present value of the property which has been paid for by the public out of the surplus earnings of your road after it has made enough to pay its ordinary expenses and pay a reasonable dividend.

A. The answer to that would, I think, necessarily be an opinion. Unless the Company stole the money, it belonged to the stockholders; if they earned it honestly it belonged to the stockholders, and they would be entitled to any benefit that might accrue, the same as if they earned it in the appreciation of lands. I think that a railroad going into a new country and building it up and furnishing the facilities to open it up and doing all their share of the work, is entitled even to more consideration than the man who went out and bought the land and let it lay and did nothing whatever. If the land went from $1.50 an acre to $3 or $5 or from $10 up to twenty-five or thirty dollars, as in many cases it has in this state, nobody would challenge his right to sell it at a profit; I don't know why the railroad should not have the same advantage, because they have done something in making it possible for people to live where they could not live before.

Q. Do you think that a purchaser of land is in the same class with the operator of a public-service corporation?

A. I think his *investment* is entitled to the same considera-

tion and protection that the other man's investment is entitled to. That is only the opinion of a layman.

Q. Now, if this proposition of the cost of reproduction is to be taken as the basis for income, it includes, does it not, Mr. Hill, not only the portion of the cost of construction which has been paid for by the public in the shape of excess rates paid to the Company, but it also includes the prospective or constructive increase in the value of the real property involved which has resulted from the increase in the value by reason of improvement of adjacent real estate?

A. Well, taking to illustrate the situation in this state the Manitoba road was originally constructed. The building of the road has given value to the property. It has built up towns and cities. Maybe if the Great Northern had not gone there somebody else would, but the railroad that went there was the cause of the building up of those business communities and the development of the country that carried it. Now, I can't see why the railway is not entitled to the same measure applied to its investment as to anybody else's. And, on the other hand, speaking of what the public have paid, the public from that standpoint have not paid anything because if the railroad company, if its stockholders insisted on having every copper cent of its earnings divided, its officers would have to divide it, and as I said before, if the Company did not steal that money it belonged to the Company and it was competent for the stockholders to divide the whole of it, but they, in many cases, gave this dividend or accepted a low rate of dividend and waited for a further development, and I don't see why they are not bearing their share of the burden of the community and entitled to all the advantages that anybody else in the community is entitled to and entitled to all the protection at the hands of the court.

Q. The money invested in improvements in the road which was derived from earnings is therefore to be put in the position

or attitude of an additional investment upon which the stockholders are entitled to earnings from the time that it was so invested?

A. The money was there, and it might have been divided, and the country has got the benefit of the investment in better and cheaper service from the fact that they allowed that investment.

Q. At what point, Mr. Hill, in your opinion, ought the increasing value of real estate, especially in the cities, to be considered to have reached its limit, above which the railroad company ought not to be authorized to capitalize it? I am referring now to the land owned by the Company. Ought this constantly increasing value which theoretically inheres in railroad property and which arises from the building up of cities and the building up of the state to go on forever and have applied to it each year that multiple of increased value which railroad property, as such, is supposed to possess over ordinary commercial property or agricultural property?

A. Well, most of these terminals, in the first instance, are inadequate, and additional property has to be bought and paid for. Now, I don't know why a piece of property extending from A to B, bought twenty-five or thirty years ago, is entitled to any lower use than a piece of property from B to C that has been bought in the last months and might cost ten times or twenty times as much as the original. I don't know how you would divide it, I don't know on what rule of equity or anything else; I am not a lawyer, but I don't know under what rule you could make the division.

Q. You don't consider that a railroad company, as a public-service corporation, is under any obligation to the public arising out of the fact that its road was built by the exercise of delegated governmental power or arising out of the fact that the construction of the highway and its maintenance is essentially a governmental function, which could not be carried on

by a private corporation, except by express authority of the government?

A. If the investment of money in railway enterprises as common carriers was not entitled to the ordinary growth or increment of the value on property purchased, I don't think there would be many miles of road built in this country; but, on the other hand, we have property that we have bought and it has decreased in value in some cases. Now, will the public come in and make good the deficiency?

Q. Is it property that you are using for railroad purposes, or property that you have held as surplus land?

A. No, property that we are using for railway purposes. And the same would apply—I am rather proud of what we have done in some cases. We had a land-grant in Minnesota. Other roads have had land-grants. Some of them appropriated them to the principal stockholders and directors; some of them sold them and paid dividends. But after we took ours, every dollar of it was pledged to retire bonds and was used for that purpose, and I think we have retired twelve millions of bonds and those bonds have been wiped out and the interest charges of the Company have been reduced and to that extent we have given the public the full benefit in reduction of rates. We have charged to the account simply the cost of administration, which ran from thirty to fifty or sixty thousand dollars a year, and in some years we have retired a million and in some years more than a million of bonds. It was granted to aid in the construction of the road. We might have sold it and divided it or done something with it for the benefit of the stockholders, we might have given it to them, as has been done by most roads, but we didn't.

Q. Don't understand that I am criticising your business practices.

A. Well, I wanted to show that there are two sides to it, and that if we insist on our additional value of the property we have made a fair disposition in the interest of the public regardless of whatever the public has done for us.

The MASTER: Unless we can complete the cross-examination tonight, the hour for adjournment has come.

Attorney General YOUNG: I think we can get through in just a minute. I don't know as we care to ask Mr. Hill very much more.

Q. I am not asking these questions for the purpose of criticising your achievements, Mr. Hill, because the people of the state all appreciate—

A. We are trying a lawsuit.

Q. —the many good things you have done, but we are talking about railroad property. Now, on this question of the valuation, suppose in the rural districts through which your road passes that the value per acre of a farm was ten dollars an acre and that, under the ordinary rule which prevails making property cost somewhat more for railroad purposes than for ordinary purposes you had been obliged to pay thirty dollars an acre for the right-of-way through that farm, and that ten years later the value of that farm had increased to twenty dollars an acre, what would your right-of-way be worth through it, in your opinion?

A. I couldn't answer, because I don't think anybody could answer until he had learned what the owner was willing to sell for, but my experience would be that after a road was built it would cost very much more than it would before the road was built and they were anxious to induce a road to build into the country. My experience has been that people are not so thankful for what they have as for what they are about to receive.

Q. That is the natural selfishness of mankind, isn't it? I didn't know but what some railroad men might be afflicted that way.

Witness laughs.

Q. But the farmers certainly have the disease?

A. Well, my experience with the farmers has been, on the whole, that they are reasonably fair, particularly *before the*

road is built; but the great difficulty we find with them is *after;* we put in crossings and gates and they will leave the gates open and are rather indifferent and they add to the risk of every person who travels over the road, because actually, after we have furnished a gate and put a lock on it and given him the key he won't use it.

Q. Well, ordinarily, Mr. Hill, regardless of the desire of the owners of adjacent lands to encourage the establishment of a railroad, could you give us an idea of about how much more railroad right-of-way costs through a rural district than the ordinary market value of the land for other purposes?

A. It would be very difficult, it varies so with different men and in different localities. Some man wants the "pound of flesh"—all he can get; some other man will meet you in what he thinks is a fair spirit.

Q. It has been mentioned here by different witnesses, and I don't know but what there have been witnesses on both sides of the controversy, that probably on the average a multiple of about three to one would be a fair criterion. In your opinion, would that be about right? I think Mr. Hayden, of your Company—

A. Well, it is only an opinion, and it would be very difficult for me, off-hand, to express an opinion. In different localities that would be different and my opinion would not be worth much, except I think that it would not be less than three per cent. I think maybe that is fairly right, but in some places—

Q. You mean three hundred per cent—three to one?

A. That is, three to one; but in some places it might cost five or ten times. You find some fellows that are very stubborn, and we have had men come out and hold us up with guns on land that they didn't own and we had to go and get a file of soldiers and take them away.

Q. But, referring to the question I asked you a moment ago, assuming that the multiple of 3 to 1 is ordinarily about right, and that in the supposed case your right-of-way through the

farmer's land had cost 3 to 1 at the time you built the road, when his land had doubled in value some ten years later, how much would your right of way, in your opinion, have become enhanced in value?

A. I couldn't estimate that. I think you would have to let nature take its course. You would have to get a commission to fix that value at the time, I don't know any other way.

Q. Would it be fair, do you think, as has been claimed in this case, to claim in such a case that the right-of-way of the railroad would be worth $60 an acre, when the farmer's land had increased from $10, its original value, to $20, assuming that the—

A. I think that it is very likely that if the farmer's land was worth $20 and there was no railroad there, he would be very apt to ask you $60 an acre for it; but he might not, and he might ask you more; and I don't know any answer that could be made to that, that is more than an opinion or a guess. I think you would have to wait until a commission or the price was fixed by the farmer. Those things differ very widely.

Q. We are supposing that the railroad is there, and, to use the same illustration, suppose that ten years later the farmer's land had increased to $50 an acre—

A. Would the railroad land be worth $150?

Q. Yes, would the railroad right-of-way be worth $150 an acre?

A. For the purpose of reproduction?

Q. For any purpose; would that be a fair valuation of the railroad right-of-way?

A. You are starting a lot of questions that I don't know how to answer. I would answer them if I could, but I don't know how to answer those questions, because the reproduction of a railway of 2000 miles is something that has never been done, and it is very hard to testify as to what would be accurate in a case that has never been done.

Q. It is really attempting to suppose an impossibility, isn't it, Mr. Hill?

A. Well, I don't want to testify absolutely on that question.

Mr. O'BRIEN: That may be because Mr. Hill has found everything possible.

WITNESS: Oh, no.

Q. There is just one other question—I think that will be all I care to ask you. You testified this morning in answer to questions put by Mr. Holden with reference to the relative cost of so-called short-haul business and long-haul business in railroading, and you very properly stated that short-haul business necessarily costs more per ton per mile; I do not believe that you undertook to classify intrastate business one way or the other, but in expressing your final opinion as to the relative cost of so-called short-haul business as compared with long-haul, you stated it would be about three or four to one greater to haul the short-haul business than the long-haul; that is correct, isn't it?

A. That would be my judgment from the various investigations I have made. I wouldn't apply that (I couldn't apply it) on the distinction as interstate and intrastate. For instance, take from Barnesville, it is twenty-four miles to Moorhead, that would be intrastate business; it would be twenty-four miles and a half to Fargo; that would be interstate business. I don't think that there would be practically any difference except the additional cost of carrying it across the river.

Q. What you meant by the three or four to one, was the—

A. Difference in the long-haul and the short-haul.

Q. And the cost of the train movement?

A. Cost of the train movement and the use of the property made by the property shipped. It applies to freight and passengers. For instance, now I was talking with the president of the New York Central; he estimates that it costs eight cents apiece for passengers moved through that station; that is, to return interest on the investment, costs about eight cents apiece. Well, a passenger who travels twenty miles on a commutation ticket into New York comes in for about ten cents, and the passenger who comes from Chicago on a $21 or $22 fare, he must owe him the difference.

Q. What you meant was the actual cost per ton mile for moving the freight would be about three to four times?

A. Three to four. Oh, *at times* it may be seven and eight, and I could point out, I have no doubt, where it would be ten times, but—

Q. At other times it wouldn't be.

A. Well, there are other times when for six or eight weeks in the busy movement of grain on the short-haul it would be maybe twice as much.

RE-DIRECT EXAMINATION.

By Mr. HOLDEN:

Q. In the last question asked you by General Young, it seemed perhaps to indicate that you had expressed the opinion that the cost of the short-haul over the long-haul was three or four times for the train movement only. I simply want to have that clear and ask whether that was what you meant, or whether you meant three or four for all of the different items of operating expenses that enter into the movement of a ton of freight.

A. I understood the question to allude to all the different items making up the cost of the service.

Attorney General YOUNG: If your Honor please, in this case, while defendants insist that it is the duty of the Complainants to show the original cost of the construction of this railway system, and that the burden rests upon them to offer that testimony, we have, nevertheless, agreed that this stipulation may be read into the record:

"For the purposes of this suit, it is stipulated that between the dates of the acquisition by the Great Northern Railway Company or its predecessors in interest of the right-of-way and terminal grounds of said railway located within the state of Minnesota, and June 30, 1908, market values of real property generally located in the vicinity of said right-of-way and terminals, increased not less than four times upon an average. Also that the average market values for general purposes of the real estate forming such right-of-way and terminal grounds did not at the times of the acquisition thereof by the railway exceed the average market values at the same time of the adjacent real estate."

Mr. HOLDEN: That has been agreed to for the purposes of this case, and for the reasons stated earlier in the history of this case, we are not able to show, because the records do not exist, the total original cost of the property, or, as to a considerable portion of it, even an approximation of the original cost, and we have agreed to this stipulation to meet the point raised by the other side, relating as it does to the original cost of the lands.

Adjourned until Thursday morning, May 27, 1909.

Federal Building, St. Paul, Minn., Thursday, June 3, 1909, the hearing was resumed at 10 o'clock, A. M.

DWIGHT C. MORGAN,

sworn on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. What is your name?

A. Dwight C. Morgan.

Q. Occupation?

A. Civil engineer.

Q. You are the same Dwight C. Morgan who testified in the case of Shepard against the Northern Pacific Railway Company, one of the cases pending before the present Master?

A. Yes.

Q. In that case you testified very fully with reference to the method adopted by you in ascertaining what, in your judgment, was the physical value of each of the railroad companies operating in the state of Minnesota?

A. Yes.

Q. In general, did you proceed in the same manner to ascertain the value of the properties of the Great Northern Railway Company, situated in Minnesota, as you did to ascertain the same facts with reference to the property of the Northern Pacific Railway Company?

A. I did.

Q. And did you proceed with the same detail and care as described by you in testifying with reference to the Northern Pacific Railway Company?

A. I did.

Q. In valuing the real estate in Minnesota of the Great Northern Railway Company, did you proceed in the same manner and upon the same theory as you did in valuing the real estate of the Northern Pacific Railway Company, and as described in your testimony in that case?

A. Yes, I did; the same general plan was followed in respect to the Great Northern that was pursued in the case of the Northern Pacific and the other lines that were valued.

Q. Have you prepared a statement showing the conclusions arrived at by you with reference to the properties of the Great Northern Railway Company, in Minnesota?

A. I have.

Q. Will you produce it?

Witness produces statement, which is marked for identification "Defts'. Ex. C-Morgan."

Q. The statement produced is marked Deft's. Ex. C-Morgan. Will you be good enough, Mr. Morgan, to explain this statement, Ex. C-Morgan?

A. Deft's. Ex. C-Morgan shows the cost of reproducing the properties of the Great Northern Company in the state of Minnesota. In the first four columns the estimate is given that was submitted to the Railroad & Warehouse Commission, under date of June 30, 1906, the first column being the estimate of the Great Northern Company, omitting the multiples on lands. That estimate, as shown in that column, was not prepared by the Great Northern Company, but it was prepared by me, from statistics which the Great Northern Company furnished in its detail statements, and it eliminates the multiple on lands and merely uses the market value of lands as they returned it.

The MASTER: Both at the terminals and in the country?

WITNESS: Yes. The third and fourth columns represent the cost of reproduction, as submitted by the Great Northern Company. The fifth and sixth columns represent the cost of reproduction, as of June 30, 1908, which is Mr. Hogeland's Ex. 2 in this case, omitting, as I have done in that case, the fifth and sixth columns, the multiples on land, using only the market value, as shown from their statistics. The seventh column is the cost of reproduction, as they have returned it in Ex. 2-Hogeland, for June 30, 1908. The ninth and tenth columns in my

estimate of the cost of reproducing the Great Northern properties in the state of Minnesota, omitting the multiples on lands and using the market value of lands as obtained from the sales of adjacent property; and the 11th and 12th columns represent the estimate of reproducing the Great Northern properties in Minnesota, including the multiples on lands. Column 10 and column 12 represent the present value of the properties in which the depreciation in the various physical elements that enter into the construction of the lines is taken into account, and therefore reduces the total value of the property from its reproduction-cost new. At the bottom we find the subsidiary properties in which the Great Northern Company is interested, namely, the Minnesota Transfer one-tenth ownership, Minneapolis Union Railway one hundred per cent ownership; Minneapolis Western Railway Company, one hundred per cent ownership; St. Paul Union Depot, one-ninth ownership; and the Kelly-Lake-to-Fermoy line is put in there because it is included in Mr. Hogeland's Ex. 2 of June 30, 1908, but my appraisal of the Great Northern properties in Minnesota does not include the Kelly-Lake-to-Fermoy line, because that line was not completed as of June 30, 1907.

The MASTER: Do you recall the amount of that?

WITNESS: I don't think they have shown it separately in their statement. It is all brought together, about twenty-two miles long.

Q. Each of the estimates and amounts shown in the third subdivision of Ex. C-Morgan, under the heading, "States," cost of reproduction and present values as of June 30, 1907, is based upon the theory of reproducing the railway properties, as to which so much has been said in the testimony in this case?

A. Yes.

Q. The only difference between columns 9 and 10 and columns 11 and 12 is that in 9 and 10 the real estate is given at what you have found to be its true value, as described by you in the Northern Pacific case?

A. Yes.

Q. And the amount allowed by you under item 29, for adaptation and solidification of roadbed, has been omitted?

A. Yes, sir.

Q. While in columns 11 and 12 this item 29 has been included and the real estate is given at what has been termed the right-of-way value, as described by you in your testimony in the Northern Pacific case?

A. Yes.

Q. But in each of these computations allowances are made for interest for the use of the money during reconstruction, and for contingencies occurring during the course of construction, and engineering expenses, and similar matters?

A. Yes, they are all provided for in both those estimates.

Q. And in that respect the estimate is made up upon the same plan and theory, with reference to the reproduction of the road, as is found in Hogeland's Ex. 2?

A. Yes, sir.

Mr. O'BRIEN: I don't know that it is necessary that we should make a statement in this case again, but so that our position will be clearly understood, the position of counsel for the state in this case is, that the burden is upon the Complainants to show the fair, true value of the property involved in the service required under the prescribed rates; that the cost of reproducing the property, properly understood, is only one test or method or basis for arriving at what is the real and actual value. To illustrate, it could well be claimed that the original cost did not show the present actual value or real value, and yet the original cost we insist, is one element to be taken into consideration in arriving at the present real value; so the cost of reproducing is only one element to be taken into consideration, and we don't desire to be understood as in any manner committing the defendants in this action to the position that it is only necessary to show the cost of reproducing, or that we accept

that as the final test in the inquiry as to the real value; but for the purpose of comparison only they desire to offer this exhibit. Mr. Young calls my attention to another matter, that perhaps I have not stated as fully as should be stated. When I said that the present true or actual value would not be shown by proving the original cost, I did not mean to say that our position was that the proper basis to be considered by the Court in this case was the present value rather than the original cost. The position of the State is that the actual necessary investment, which may be shown by the original cost of the properties, is, of necessity, the proper basis to use in fixing the value of the property or the land upon which the Railway Company is entitled to a return; and, as we have said, the burden is upon the Complainants to show that original investment and original cost and, further, to show the present actual value.

The MASTER: I believe there is no evidence of the original cost in this case, is there, up to now?

Mr. O'BRIEN: The only evidence is the stipulation that was read into the record the other day, the only evidence looking to that. We offer Ex. C-Morgan.

Mr. HOLDEN: Mr. O'Brien stated that the stipulation relating to the right-of-way was the only evidence in the case relating to original cost. I don't want that statement to go unchallenged, because it seems to me there are other exhibits, offered by Mr. Hogeland, relating to the cost of grading, tracklaying, ballasting, and matters of that kind, which do show evidence relating to that subject. They may not show all of the cost of all of the work of each kind, but I have no doubt Mr. O'Brien perhaps overlooked those exhibits for the moment; but insofar as the question may be material, that is not a matter now, but I simply want to make the correction which it seems to me proper to make, that there is some evidence in the case on those subjects.

Mr. O'BRIEN: When I answered the Master's question with

reference to original cost, real estate was in my mind particularly. I am really not prepared to answer the question with regard to how far the other exhibits show the cost of construction, because that would require rather close analysis in order to make a complete statement.

Attorney General YOUNG: So far as real estate is concerned, there is no testimony.

Mr. O'BRIEN: Now, unless there is some objection, I won't undertake to go over Mr. Morgan's methods and work in detail in this case.

The MASTER: I understand that the testimony in any of these cases, so far as it may be applicable, may be used in any other of the other cases; is not that so?

Mr. O'BRIEN: Well, we have not definitely stipulated to that yet, but all of the counsel have unofficially expressed the hope that they would be able to do so before we got through.

Attorney General YOUNG: Let us stipulate to it now.

The MASTER: I supposed that that was the—

Mr. HOW: I have no idea but that we shall be willing to stipulate that,—that evidence in any case may be used in any other case and equally applicable in any other case as in the case in which it was given; but personally, I don't feel able to make that broad statement, because there are others associated with us in some of the cases and I should like to confer with them. We are ready now to say that Mr. Morgan's testimony in the Northern Pacific case may be used in this case as if given in this case; we are certainly ready to go so far, because we haven't any doubt at all that Mr. Morgan would testify in exactly the same manner in this case, and it seems a wholly useless occupation of the Master's time and counsel's time and Mr. Morgan's, to go through it again. That includes, of course, direct and cross-examination.

The MASTER: Certainly; the whole testimony, as I understand.

Mr. O'BRIEN: Certainly; that is accepted, and understood by the Defendants.

Q. Mr. Morgan, will you now please call attention to any special matter you desire to refer to in connection with item 1 of Ex. C, as to right-of-way, yards and terminals?

A. In column 3, item 1, the cost of reproducing the lands on the Great Northern, as of June 30, 1906, is $27,885,883; in column 7, the cost of reproducing the lands, as of June 30, 1908, which is Mr. Hogeland's Ex. 2, the lands are put in at $25,580,718. In column 9, State's reproduction cost, which omits the multiples on lands, the reproduction cost is $7,493,250.41; and in column 11, including the multiples, is $13 918,936.86. So that, comparing the two Great Northern appraisals, the one for 1906 and 1908, there is a reduction of something over $2,000,000, and yet the cost of reproduction in their exhibits is very much above the cost of reproduction as shown either in column 9 or column 11 of the State's estimate. The difference between the Great Northern estimates is made up mainly from reducing some of the values that were put in the appraisal of 1906 throughout the state. A great many of the towns had been put in at figures that were very high. I think in my report to the Commission I called attention to Fridley, where they had estimated $3,000 an acre for land which the Northern Pacific parallel to it had estimated at $600. There were some forty or fifty points in the state that I made notes of in my examination of the Great Northern properties where the figures seemed to be out of all proportion to the condition. For example, at Elbow Lake, the Great Northern line is probably two miles from the town. They had in $2,000 for farming lands in that vicinity, and there were a number of other places on the line to which I might call attention. Now, a good many of these have been reduced; they have brought them down, so that that makes a considerable part of the difference between their two estimates. There has been no reduction in the value of the terminal properties, and their esti-

mate for 1908, I think, includes some property that was not included in 1906.

The MASTER: Did I understand you to mean by your statement that the Company itself has made reductions?

WITNESS: Yes, in their estimate of 1908 they have cut down some of these figures; but even with that in view, the difference in the cost of reproduction as between their estimate of June 30, 1908, and my estimate of June 30, 1907, shows practically $12,000,000. Now, most of that is made up by the terminals of St. Paul and Minneapolis, and the balance is scattered pretty generally over the state. Take the Great Northern exhibit with respect to the cost of reproducing lands on several of the lines, take first the line from Thief River Falls to Greenbush; in 1906, they had $93,765 reproduction cost of the right-of-way; in 1908 that is reduced to $50,894. The original cost of the right-of-way, (and I would like to call attention to the fact that that is a line which has been built very recently, in fact, just completed in the last year or two) original cost of all of the lands on that line, was $19,255.03. That is shown in, I think, Mr. Hayden's exhibit. The State's reproduction estimate on that line is $27,697.50. So that it shows a very nice increase over and above what the lands actually cost the Company. The reproduction cost, as turned in by the Great Northern for that line, as of June 30, 1908, is $50,894.

Mr. HOLDEN: Does your State's reproduction cost of $27,697.50 include the multiple, or is that without any multiple?

WITNESS: That includes the multiple.

The MASTER: You were comparing that with what you found to be the actual cost?

WITNESS: Yes, with the actual cost. Those figures to which I have just referred are found on Ex. C-1-Morgan. Now, take the line from Brookston to Ellis; the estimate of the Great Northern Company for June 30 1906, was $66,272; for June 30,

1908, it is reduced to $21,987. The original cost was $6,392.38, and the State's reproduction estimate is $15,152.52.

Q. When was that road built?

A. The construction books closed on the line June 30, 1905; I think the right-of-way was bought, most of it, along about 1900, perhaps 1899 or 1900. Take the next line of figures, Chisholm to Virginia; the reproduction estimate as of June 30, 1906, returned by the Great Northern, shows $77,808. The reproduction estimate, as of June 30, 1908, shows $45,538. The total original cost of that right-of-way was $7,698.48; the reproduction estimate by the State is $39,993.30. I would like to explain in respect to that, that the city of Chisholm developed very rapidly after this line was constructed, and the additional cost which I show in there, is on account of the value of the property which enhanced very rapidly in the vicinity of Chisholm. That is why, at the present time, the reproduction estimate is so much above the original cost. But summing those lines together, we have about 1862 acres of land that in 1906 was reported at reproduction cost of $237,845, and as of June 30, 1908, $118,419. The total original cost was $33,345.89 and the reproduction estimate by the State is $82,843.41.

Q. That last column, giving the reproduction cost as estimated by the State, includes the multiple?

A. It does.

Q. And in these particular lines, is that multiple always a multiple of three?

A. It has been used uniformly,—a multiple of three.

Q. With reference to these lands?

A. With reference to these lands, yes.

Mr. O'BRIEN: Ex. C-1 is offered in evidence.

Q. Have you prepared a statement showing where the differences between the estimates as presented by the Complainants and the estimates as prepared by you occur?

A. I have,—a statement that shows the section number (that

is, the division in which the property had been subdivided) and it shows the market value and the railroad value for each of those sections, for the report that was submitted to the State for June 30, 1906, for the report that was submitted in this case as of June 30, 1908, and the State's market value and reproduction value as of June 30, 1907. (The statement was marked "Defts.' Ex. C-2-Morgan.")

Q. The designation in the first column of Ex. C-2 "Section Number" refers to the section numbers of the different parcels into which the road has been subdivided for the purpose of making the valuation?

A. Yes.

The MASTER: By the Company itself, is it not?

WITNESS: Yes; that was the division that they made themselves, and that map (pointing) shows how all of the lines were divided.

Q. And the section numbers correspond with the exhibits in behalf of the Complainants?

A. Yes.

Mr. O'BRIEN: We offer Ex. C-2 in evidence.

Q. Will you explain the last line on Ex. C-2-Morgan?

A. The last column of figures in Ex. C-2-Morgan is the railroad value of the lands on these respective sections which includes the multiple that has been used. At the bottom is shown the general average multiple that is used, over and above the market value of the lands. In the rural districts, a multiple of three has been used, but in the cities a much less multiple has been used, and therefore, the greater value of property being in the cities, it brings down the general average multiple to 1.85 as an average value of the lands of the Great Northern in Minnesota. But if they were separated individually, by sections, we would find the multiple of three for the rural districts, and, in the cities, we would find a multiple of 1¾ in St. Paul, 1.6 in Minneapolis, and 1.4 in Duluth; so that, adding them all to-

gether, both the terminal properties and the properties lying throughout the state, it produces a general average of 1.85 plus.

Q. As I understand, taking the first subdivision of Ex. C-2, if the market value as reported as of June 30, 1906, of $20,254,898.40 was multiplied by 1.376, it would produce $27,885,883, the amount shown in the third column?

A. Yes, sir.

Q. And that is true as to each?

A. That is true as to each, and that applies to each of the estimates, so that the Great Northern estimate of June 30, 1906, used an average multiple of 1.37; their estimate of June 30, 1908, shows an average multiple of 1.42, practically; and the State's as of June 30 1907, shows a multiple of 1.857 plus. Now, with respect to the terminal properties, there is a wide difference, and that is due to the plan that was pursued in ascertaining the values. In the exhibit of the State (Ex. C-Morgan) we have eliminated all of the lands which are occupied by the Railroad Company in streets that are not vacated. That makes a difference in our estimate of the Great Northern of about $135,113.47 in St. Paul, and in the city of Minneapolis, $23,767, a total of $158,880; that is, the Great Northern Proper. And that some condition applies with respect to the Minneapolis Union property, which is a subsidiary line of the Great Northern. In cutting out the streets on that line, which is Hennepin avenue, it reduces the Great Northern estimate $269,527 in addition to what I have already stated with respect to the Great Northern properties proper.

Q. Have you prepared a statement of the portions of streets so eliminated by you in your calculation?

A. I have. (Statement produced, marked "Defts.' Ex. C-3-Morgan," and offered in evidence.)

WITNESS: I would like to state, in connection with Ex. C-3, that that only applies to the Great Northern proper, and it does not include the subsidiary properties. In addition to that, as

already stated, there was eliminated, on account of the Minneapolis Union Railway, $269,527.50, shown in the reproduction estimate of the Railroad, and $145,586.44 in the State's reproduction estimate.

Q. Have you a statement of that?

A. I have.

Statement produced, marked "Defts'. Ex. C-4-Morgan," and offered in evidence.

WITNESS: In respect to the terminal values in St. Paul and Minneapolis, which was considered on the basis of the sales of property adjacent to the terminals, I have analyzed that in two ways, as I did in the Northern Pacific case. I find that in St. Paul we have divided the Great Northern System into nineteen different sections, and in all of those sections except four, we find sales of property which furnish an index to its value and form the base from which we are able to ascertain the reproduction cost of the terminal property owned by the Railroad. As I stated in the Northern Pacific case, the value of the railroad lands in St. Paul was obtained by using an average ratio of 60 per cent; that is, that on an average the assessed value of property was 60 per cent of its selling price; and upon that basis we have ascertained the cost of reproducing the terminal properties of the Great Northern Company; which amounts to $3,587,220.90.

The MASTER: Without the multiple?

WITNESS: That is with the multiple. Now, then, as requested by Mr. Butler, at the time the Northern Pacific case was under consideration, and because of the inequality which exists in respect to the ratio in different parts of the city, about which much has been said, I also produced a reproduction cost of the Great Northern properties taking into account the ratio which we found individually in each section; and on that basis I got a reproduction cost of $3,695,352.26, or a difference of about three per cent.

Q. Have you prepared a statement showing that?

A. I have.

Q. Produce it.

Statement mentioned by witness produced, marked "Defts.' Ex. C-5-Morgan," and offered in evidence.

Q. In Ex. C-5 you have taken each section of the terminal properties, or each division of the terminal properties in the city of St. Paul, and, for the purpose of ascertaining the value of the property in each section have applied to the property in each section separately, the ratio between assessed value and sale-price, determined by the assesments and sales in that particular district?

A. Yes.

Q. And the total value so found is stated in the ninth column?

A. Yes, in the next to the last column.

Q. And the value found by applying the general ratio adopted by you, is found in the eighth column?

A. Yes.

Q. Will you explain the tenth or last column in Ex. C-5-Morgan?

A. The tenth or last column is the multiple to be applied to "Estimate A—Values," to bring them on the basis of the individual section ratios.

Q. Do you mean that—

A. I mean that the ratio between the eighth and ninth columns is shown in the tenth column, which shows what the individual differences are.

Q. That is, that if the first item in the eighth column, $2,066,154.57 were multiplied by 1.018, you would have the amount shown in the first line of column 9, $2,103,345.35?

A. Correct. I have prepared the same kind of a table for the city of Minneapolis, by taking the average ratio in Minneapolis (of 54.7) and obtaining a reproduction cost on the Great

Northern terminals of $3,631,666.63, and, using the individual ratios which we established from the sales in the individual sections into which the Great Northern was divided in Minneapolis, we obtain a reproduction cost of $3,571,915.47, or a difference of about 1.7 per cent.

Q. Have you prepared a statement showing those facts?

A. I have.

Statement produced, marked "Defts'. Ex. C-6-Morgan," and offered in evidence.

WITNESS: Now, combining the results of these two processes in Minneapolis and St. Paul, I find that, using the average ratios in those cities, we produce a value, for the terminal lands, of $7,218,887.53, and that, using the individual ratios which we find in the individual sections into which the Great Northern was divided, in both Minneapolis and St. Paul, we find a reproduction cost of $7,267,267.83, or a difference, by the two processes, of about .6 of one per cent.

Q. Have you prepared a statement showing those facts?

A. I have.

Statement produced, marked "Defts'. Ex. C-7-Morgan," and offered in evidence.

WITNESS: The important feature of these tables is that it discloses that our base is sufficiently broad in respect to the assessed value of property and the sale-price of property that the individual inequalities are not important, that they eliminate themselves, and that by the two processes we reach almost the identical result. In support of the estimate which I have made in respect to the cost of reproducing the terminals of the Great Northern Company, as well as the other lines which are involved in this litigation, I have prepared a statement which shows the terminal properties which have been bought, during the last six years, by different railroad companies, located in different parts of the city, but it takes into account property which has been bought by each of the companies. I have shown

in that statement what the railroad company actually paid for the land; I have also shown what they estimate its reproduction cost to be, and then I have shown what reproduction estimate we get by using the sales-method. To begin with, the Chicago, Rock Island & Pacific bought 45.55 acres of land in St. Paul for $137,296.55. The reproduction estimate returned to the State for those identical lands—

Mr. HOW: Who returned this estimate?

Mr. O'BRIEN: The Rock Island.

Mr. HOW: The Rock Island! Well, now, I protest against this sort of evidence in the case as wholly impertinent.

The MASTER: Protest noted. Go on.

Attorney General YOUNG: Your same appraisers did all the work, what are you protesting for?

Mr. HOW: It does not appear at all that that estimate is the estimate of the appraisers in this case.

Mr. O'BRIEN: I think you are mistaken about that, Mr. How. I think Mr. Taylor, and each of those men, testified that they did appraise the Rock Island.

Mr. HOW: I admit they appraised it.

Mr. O'BRIEN: The return to the State was based upon their opinion, wasn't it?

Mr. HOW: I don't know anything about it, whether it was or not; I haven't any idea, none whatsoever, nor has the Master.

Attorney General YOUNG: It is a very small matter, anyway, and it can be verified as to whether or not it is correct.

Mr. HOW: If there is any prejudice in it, we have been prejudiced enough by testimony of what other railroads have done who are not under examination here.

Attorney General YOUNG: Can't stand any more?

Mr. HOW: Oh, I can stand it if I have to, but I don't want to do it without a protest. This witness has testified, many times, as to what some other railroad has done. Now, the fact is, I happen to know, in some of those cases, that what has been

done that he has testified to, which is prejudicing us in this case, has been done by under-clerks, without any supervision of anybody in higher authority.

WITNESS: I would like to take exception to that statement—that the estimates which have been submitted to the State have come to me under the signature of either the general manager or the chief engineer of the respective roads, and the only conferences that I have had in respect to these valuations have been with those men, and they know what has been submitted to the State in each case.

Mr. HOW: You don't know how they have been prepared as well as I do. If you are willing to testify as to who prepared them, go ahead.

The MASTER: Well, I think he will have to go ahead, anyway.

Attorney General YOUNG: They were probably prepared by the parties who signed them.

Q. Go on, Mr. Morgan.

A. The reproduction estimate returned to the State for those identical lands was $978,262.69. The State gets a reproduction estimate of $255,198.97. The Minneapolis, St. Paul & Sault Ste. Marie purchased 42.26 acres of land for $360,744.89. The reproduction estimate submitted to the State is $572,839.46. The cost of reproduction in the State's estimate is $404,921.91. This Soo property was all of very recent date of purchase.

Q. Have you prepared a statement showing the facts you have stated and the facts with reference to the other roads?

A. I have.

Statement produced, marked "Defts'. Ex. C-8-Morgan."

Q. In the first place, does this statement purport to include all of the lands purchased by any railway company in the city of St. Paul and the city of Minneapolis in the last five years?

A. It does of all where we could get the consideration, either from the deed or by inquiry from the company, and it includes nearly all of the property that has been bought.

Q. It then practically includes all of the property that has been bought or nearly all of it?

A. Yes.

Q. And the considerations were either taken from the public records or ascertained by inquiry from the railway companies?

A. Yes.

Q. Could you say, generally, the dates at which the properties were acquired?

A. Well, it has all been acquired since 1901, but I have not the data here which will show just when each piece was acquired. We have only taken that of recent date.

Q. I observe that the fourth line in this exhibit refers to the Great Northern Railway Company.

A. Yes.

Q. Will you read that line?

A. That shows that the Great Northern bought 8.24 acres of land for $32,200, which they have in at a reproduction cost of $101,706.28, and on which we get a reproduction cost amounting to $69,783.61.

Q. How recently was the land of the Great Northern purchased, if you remember?

A. I don't recall now just when that was bought. The Great Northern acquired that land quite recently, within the last two or three years. It lies over in the vicinity of Jackson street, over the bluff.

Q. In Minneapolis the Great Northern comes second, I observe.

A. Yes.

Q. Read that line.

A. In Minneapolis they purchased 38.7[illegible] acres for $70,684, which they have returned in at a reproduction cost of $682,195, and for which we get a reproduction estimate of $251,081.90.

Q. In the cities of St. Paul and Minneapolis, during this

period, the railway companies have acquired 353.56 acres of land?

A. They have.

Q. At a cost, shown in the manner you have described, of $2,753,147.35?

A. Yes. That is down at the bottom of the page.

Q. Is that figure right?

A. Yes, that is correct.

Q. In the report to the Railroad & Warehouse Commission, as of date June 30, 1906, the right-of-way value of those lands, as claimed by the railway companies, was $9,187,160.63?

A. Correct.

Q. And in ascertaining the cost of reproduction, including the multiple upon lands, you have fixed the value of the same lands at $3,939,318.25?

A. Yes; which is about $1,200,000 more than they paid for it.

The MASTER: All bought since 1901?

WITNESS: Yes, sir.

Q. Have you prepared a statement with reference to the values of the real estate upon the line known as Kelly Lake to Fermoy?

A. Yes.

Q. Produce that.

Witness produces statement marked "Defts'. Ex. C-9-Morgan," and offered in evidence.

Q. Please explain that exhibit.

A. Ex. C-9 was prepared by me for the express reason that, in making up my estimate of the cost of reproducing lands through the section of the state in which this line is located, I found that the sworn statement of the Great Northern Company, which was submitted to the Commission in accordance with the law which required the Railroad Company to furnish it with a statement of the cost of newly constructed lines, I could not make my estimate in respect to the lands harmonize; in other

words, I was clear out of proportion with all of the data that I had obtained, and I therefore made some investigations in respect to the cost of the land on the Kelly-Lake-Fermoy line, and instead of finding the cost to be $12,949.41, as shown on the sworn statement to the Commission, I found that the actual cost was $5,546.28; that there was some land to which title had not been acquired, so that the total cost of the right-of-way for the total acreage amounted to something over $6,000, about $6,500. But that demonstrated to my mind that we were following the right course in respect to getting the value of lands in that vicinity, and it also showed that there had been a mistake in the statement furnished to the Commission. And they have shown now, in their exhibit of June 30, 1908, a reproduction estimate of $8,778, and if we had estimated it upon the basis of our own investigations, we would have produced $6,583.14. That is merely in corroboration of the other data which I have shown in respect to the original cost and the reproduction cost as prepared by the State.

Q. In the original report as shown upon Ex. C-9, the cost per acre was given at $35.40?

A. Yes.

Q. While in the statement as of 1908, the cost was given per acre at $18.95?

A. Yes.

Q. And in the estimate as to the cost of reproduction as of June 30, 1908, the value was given at $24 per acre?

A. Yes.

Q. The true or market value as found by you was $18 per acre?

A. Yes.

The MASTER: It seems to have been reduced to acreage in 1908 in the report.

WITNESS: Yes. There was a reduced acreage in there on account of the fact that they had not acquired title to all of the property.

Q. But the full acreage was included in the estimate of June 30, 1908?

A. Yes, sir.

Recess until 2 P. M.

AFTERNOON SESSION.

Q. Have you a detailed statement with reference to item 2, Grading, Clearing and Grubbing?

A. I have.

Statement produced, marked "Defts'. Ex. C-10-Morgan," and offered in evidence.

Q. Will you explain this table?

A. Ex. C-10 Morgan is a statement comparing Great Northern Railroad appraisal subject to grading, clearing and grubbing as of June 30, 1908, and the State's as of June 30, 1907. This exhibit shows the number of the section, and, in the second column, the figures that are prepared by the State and those prepared by the Railway Company, shows which of the figures in those columns are the State's figures and which are the Railway figures. Then we show the prices at which earth work has been put in at by the Railway and the State, and the total cost of the same for each section; also the same information with respect to the loose rock, the same information with respect to the solid rock, and then the total cost of reproduction of the grading on each of the sections; then, under the head of the Clearing and Grubbing, we show the number of acres and the prices per acre and the total cost of the clearing and grubbing on each of the sections; and, in the last column, we get the total cost of the grading, clearing and grubbing for each of the sections. At the bottom of this table the total figures are brought together for the State's estimate of June 30, 1907, the Railway Company's estimate as of June 30, 1908, and the Railway Company's estimate of June 30, 1906. In the last column is the sum total of the State's figures for grading, clearing and grubbing, amounting to $16,531,191.24. The next item is for the Railway Company's estimate as of June 30, 1908, amounting to $21,644,343.42. The next item is the Railway Company's estimate to the State as of June 30, 1906, showing a total of $22,351,054. The details of the grading show that the State's unit cost, in column 3, at

the bottom, is an average of 28.1 cents. For 1908 the Great Northern puts in a reproduction estimate of 32.9 cents, and in 1906 their reproduction cost was 33.9 cents. Under the head of Loose Rock, the average price by the State is 50 cents per cubic yard; the Great Northern's estimate for both 1908 and 1906, is 55 cents. Under the head of Solid Rock the State's estimate is $1.129 per cubic yard, and the estimate of the Railway for 1908 and 1906 remains the same, at $1.25. On the clearing and grubbing the estimate by the State averages $72.19 per acre. In 1908, the Great Northern shows $100.34, and the same amount for 1906. So it shows that in addition to the fact that there are differences in the quantities on certain of the sections, there is also quite a difference in the prices which go to make up the total differences appearing at the bottom of the last column. And under the head of Clearing and Grubbing, there is a difference in the number of acres, I think, in some respects; at least we get 11,411 acres as against their 13,395 acres, and that is due to the fact that we are not allowing as much clearing and grubbing as it claimed by the Great Northern Company, nor are we allowing as high a price for the work as they are claiming.

Q. The next item upon which you have prepared a detail, I understand, is No. 5, Cross-ties and Switch-ties?

A. Yes, sir.

Statement produced, marked "Defts'. Ex. C-11 Morgan" and offered in evidence.

Q. Will you please explain Ex. C-11?

A. This statement is prepared for the purpose of showing the number of ties of various classes, both cross-ties and switch-ties, as returned in the report of the Great Northern Company for June 30, 1906, on two bases: the first is as taken from the final summary sheet, and the next is as compiled from the individual sections, showing some discrepancy in the number of ties shown on the final summary sheet and in the details. The third column shows the number of ties as of June 30, 1908, and

the last column is the State's statement in respect to the number of cross-ties and their cost. Taking the first line, oak ties, I hardly think it will be necessary to compare with the first column, so we will take the second column and that will carry us through the three items. In 1906, the total number of oak ties on the line was 1,088,434, which the Great Northern Company returned at 85 cents each, amounting to $925,168.90. The report of the Great Northern Company as of June 30, 1908, shows 1,076,330 oak ties at 85 cents, amounting to $914,881. The State's estimate shows oak ties 1,088,434 at 70 cents each, amounting to $761,903.80. The same information is prepared with respect to cedar ties not treated, fir ties, tamarack ties, and other kinds of ties, giving a total under date of June 30, 1906, of 7,697,903 cross-ties, at a reproduction cost of $5,398,496.49, and the Great Northern exhibit for June 30, 1908, shows 7,582,922 ties, at a total cost of $5,344,328.70. The State's reproduction estimate as of June 30, 1907, shows a total of 7,587,049 ties at a total cost of $4,211,418.70. The same class of information is furnished with respect to switch-ties and railroad crossing ties. At the bottom of the page is a statement which shows the average number of ties per mile. In the report for June 30, 1906, the average number of cross-ties per mile of track, as reported, was 2837.8 ties; as reported for June 30, 1908, 2771.7 ties per mile; and as estimated by the State the average number of ties per mile of track is 2813.3 ties. In other words, we get a few more ties to the mile than the Great Northern does in its exhibit for 1908, and a few less than it had in its estimate for 1906.

Q. Have you prepared another statement showing certain details with reference to ties?

A. I have.

Statement produced, marked "Defts'. Ex. C-12 Morgan," and offered in evidence.

Q. Please explain that statement.

A. This statement is prepared for the purpose of comparing the unit prices on cross-ties. In the first column is shown the cost of ties at the distributing points as given in the sworn annual reports to the Railroad & Warehouse Commission for the years 1902, 1903, 1904, 1905, 1906 and 1907, and opposite each of those years is the price at which the various classes of ties—oak, cedar, tamarack, pine and others, treated, and the general average of all ties, is returned; and the last column shows the number of ties that they have put in, according to their sworn statements. That is summarized on the general average for all of those years and shows that for oak ties the average price at distributing points was 48.5 cents; for cedar ties 36.9 cents; for tamarack ties, 36.9 cents; for pine ties, 36.9 cents; for other kinds, 59.5 cents; for treated ties, 41.8 cents; the general average of all ties being 39.5 cents for 2,897,725 ties purchased. The next item is the Great Northern's cost of reproduction as of June 30, 1906, reported to the Railroad & Warehouse Commission; and the next item is the Great Northern's cost of reproduction as of June 30, 1908, which is Mr. Hogeland's Ex. 2. The prices of the oak, cedar and tamarack ties, remain the same. The pine ties are raised, in 1908, from 45 cents to 50 cents. The other kinds remain at the same price, of 45 cents, and the treated ties at 75 cents, and the general average of all ties is 70.3 cents in 1906 and 70.5 cents in 1908, and the total number of ties considered is 7,706,748 ties in 1906, and 7,582,922 ties in 1908.

The MASTER: In the first line you say "their sworn reports" to the Railroad & Warehouse Commission of Minnesota.

WITNESS: Yes, sir.

The MASTER: Then you find 1906; then later, farther down, you have "cost of reproduction as of June 30, 1906, reported to the Railroad & Warehouse Commission." What is the difference between the two?

WITNESS: I meant that one was a sworn report to the Com-

mission and the other is *reported* to the Commission. The sworn report is the annual report which the railroads furnish to the Commission every year, showing their business done in the state of Minnesota, and the next item to which you refer "reported to the Railroad & Warehouse Commission" is the statement that the railroad companies made to the Commission covering the valuation of their properties as of June 30, 1906.

Q. You mean the report made to the Railroad & Warehouse Commission at your request?

A. At my request.

Q. As described by you in your testimony in the Northern Pacific case?

A. Yes.

Q. The other reports, given by years here, refer to the regular annual reports of the Road?

A. That is correct.

The MASTER: Those are the official reports, and these are special reports made to you on request?

WITNESS: Yes, sir. Now the next item is the United States Department of Agriculture, Forest Service, circular No. 124, giving the number and value of ties purchased by steam railroads in the United States in 1906. The general average of all oak ties purchased in the United States in 1906 was 51 cents; for cedar ties, 47 cents; for tamarack ties, 35 cents; for pine ties 40 cents; for other kinds 40 cents; giving a general average for all classes of ties of 49.6 cents for 57,219,629 cross-ties that were purchased by the railroads during that year. The next column is the State's unit prices used in the appraisal of the Great Northern Railway in Minnesota as of June 30, 1907—oak ties, 70 cents; cedar ties, 60 cents; tamarack ties, 50 cents; pine ties, 40 cents; other kinds, 40 cents; treated ties, 75 cents; general average of all classes of ties, 55.5 cents for 7,587,049 ties in the roadbed of the Great Northern system in Minnesota.

Q. Have you prepared details with regard to item 7—Rails?

A. I have.

Statement produced marked "Defts'. Ex. C-13 Morgan," and offered in evidence.

Q. Will you explain that?

A. This statement is prepared for the purpose of showing the total number of tons of rail in the lines of the Great Northern in Minnesota, the total number of miles for all tracks, the average number of tons per mile of track, and the unit price per ton, at either St. Paul, Minneapolis or Duluth. The Great Northern Company, as of June 30, 1906, reported 290,002.62 tons of rail, covering 2,712.63 miles, or an average of 106.9 tons per mile, which was returned at distributing point, at $32.35 per ton. The Great Northern Company, as of June 30, 1908, (which is from Mr. Hogeland's Ex. 2) returns 294,049.58 tons for 2,735.78 miles of track, or an average of 107.4 tons per mile, at a price of $30.75 at distributing point. The State's estimate, as of June 30, 1907, shows 290,563.64 tons for 2,696.399 miles at an average of 107.7 tons per mile, and at a price of $29.75 per ton—which has been, for a number of years, the current price of steel rails,—delivered at St. Paul or Duluth and includes the transportation charges to those points.

Q. Have you prepared details with reference to item 31, Locomotives?

A. I have.

Statement produced, marked "Defts'. Ex. C-14 Morgan," and offered in evidence.

Q. Will you explain this table?

A. This table is prepared for the purpose of showing that in its exhibit to the State the Great Northern Company, in apportioning its locomotives to Minnesota, assigned several engines once, and sometimes twice to Minnesota; for example, take the first line of entries; engine No. 150 was reported on the terminal division, and 100 per cent of it was assigned to the terminal division. Then we find that same engine charged up again to the Fergus Falls division 100 per cent, giving the value of that

engine twice; engine 217 is charged up 100 per cent to the terminal division, and 100 per cent to the Fergus Falls division, charged up twice to Minnesota; engine No. 953, 100 per cent is charged up to the Fergus Falls division, and 15.95 per cent is charged up to the Dakota division; making a total of 115.95 per cent of the value of the engine. Engine No. 965, 100 per cent is charged up to the terminal division, and 90.90 per cent to the Willmar division, making a total of 190.90 per cent; engine No. 1141 91 per cent is charged up to the Mesaba division, and 15.95 per cent to the Dakota division, making a total of 106.95 per cent. Now, the Great Northern's cost of reproduction for these engines, charged in on this basis, is $92,785.01, and, using their own figures, they should have been charged in at $58,735.90, or the Great Northern has overcharged these engines, $34,049.11. The last column shows the cost of reproduction and percentage allowed for Minnesota for each of these separate engines, and we get a total reproduction cost of $56,937.17 as against the $92,785.01, which is $34,049.11 more than it should have been and when it is brought down and the proper charge is made for those engines there is very little difference between their estimate and mine.

Q. Is that error carried into Hogeland's Ex. 2, that you have pointed out as being contained in the report for the purpose of valuation?

A. I can't say definitely that it is carried into Ex. 2; the figures shown in Ex. 2, it will be noted, are very much higher than the figures shown on their appraisal for June 30, 1906. That is due to two things: the first is that the report for 1908 includes a good many locomotives that they did not own in 1906, and, furthermore, the distribution which they have made of their locomotives in Ex. 2 is upon an entirely different basis than the distribution of locomotives for their report of June 30, 1906; in other words, in 1906, the locomotives were assigned to Minnesota on the basis of engine mileage on divisions that were

operated either wholly or partly within the state of Minnesota, and engines which operated partly in and partly out of the state were assigned to Minnesota upon the ratio or proportion that the number of engine-miles in Minnesota bore to the total engine-miles on the operating division over which that engine moved. In 1908, the Great Northern Company has made a distribution of locomotives by taking into account all of the engines on their System; in other words, the heavy Mallet compound engines, which they are using in the mountains and which have only passed through the state of Minnesota and will probably not come back here, are charged up as a part of the locomotives in the state of Minnesota—part of the valuation. As a rule, railroads that operate through a mountain district, use a much heavier and a more costly class of engine than is true in a prairie country; that is demonstrated from the fact that the Great Northern has a great many, or a number of, Mallet compounds, and so have all of the other transcontinental lines. Those very heavy engines are centered in the western part of the country to take care of the mountain business, and they are not a class of engine that is required in this section of the country; and it seemed to me that in getting a fair apportionment of locomotives to Minnesota, it ought to be based, as I proposed, upon the engines that we found here, apportioned according to their mileage in this state. That accounts for a very considerable part of the difference, aside from the fact that they have bought some additional engines.

Q. Have you prepared a detailed statement with reference to item 36, Freight on Construction Material?

A. I have.

Statement produced, marked "Defts'. Ex. C-15 Morgan," and offered in evidence.

Q. Please explain statement 15.

A. Statement 15 has been prepared for the purpose of showing the item of freight on construction material, for the repro-

duction estimate as made by the Great Northern Company for June 30, 1906, and for June 30 1908, (which is Mr. Hogeland's Ex. 2) and the State's estimate of freight on construction material as of June 30, 1907. I should like to call attention to the fact that in the report for June 30, 1906, being the first two columns, the Great Northern Company did not report or show any details whatsoever in respect to freight, but put in a lump sum of $4,364,769 in their estimate as of June 30, 1908, (which is Mr. Hogeland's Ex. 2); the number of tons and the amount chargeable to freight is shown for each of the sections and for the 734,072 tons there is a freight charge of $1,689,190, or practically $3,000,000 less than they had in their estimate for June 30, 1906, and the general average freight allowance per ton for June 30, 1908, is $2.30. The next column shows the allowances for the respective divisions and the number of tons of freight moved, which shows 764,915 tons, at a total cost of $752,547.41, or an average allowance of 98.4 cents. The reason for the difference in the charges for freight is that the Great Northern Company has used full tariff rates for the transportation of freight on all of these various sections. There are some of the sections in the State's estimate in which tariff rates have been allowed, but those tariff rates have been allowed only where it was necessary to transport the material over a foreign line; and where it has not been necessary to transport the material over a foreign line we have used the construction rate of 5 mills a ton mile. I think that that is the rate which has been almost universally used by the railroad companies in their valuation to the State, with the exception of the Great Northern and the Northern Pacific, which have used tariff rates. I know that it is customary, on a good many lines, to use a construction rate, not only with respect to material, but also with respect to the transportation of men and supplies. We have, at the present time, the construction of the Grand Trunk Pacific, extending across Canada to the coast; they are using there a construc-

tion rate of one cent a mile for the transportation of men, and on material they are using 60 per cent of tariff rates. It has been customary, on the Northwestern, to use a construction rate for new lines built and also a construction rate for the transportation of men.

Q. At the bottom of Ex. C, I find the statement as to the Great Northern's proportional interest in certain subsidiary companies, or certain independent companies, the Minnesota Transfer, the Minneapolis Union Railway, the Minneapolis Western Railway, St. Paul Union Depot; you have already presented, in the Northern Pacific case, the detail statements with reference to the St. Paul Union Depot and the Minnesota Transfer?

A. I have.

Q. Have you now a similar statement with reference to the Minneapolis Union Railway, of which the Great Northern is the sole owner?

A. I have.

Q. Produce that.

Statement produced, marked "Defts'. Ex. D-Morgan," and offered in evidence.

Q. Ex. D-Morgan refers exclusively to the Minneapolis Union Railway, I believe?

A. It does.

Q. And is prepared in exactly the same manner as Ex. C-Morgan was prepared?

A. It is.

Q. Please produce the statement with reference to the Minneapolis Western.

Statement produced, marked "Defts'. Ex. E-Morgan," and offered in evidence.

Q. Ex. E is a statement giving exactly the same information, and prepared in the same manner as Ex. D, except that Ex. E refers to the Minneapolis Western Railway exclusively?

A. That is correct.

Q. Mr. Morgan, have you made an examination of the original records of the Great Northern Road for the purpose of ascertaining the prices paid by that road for grading within recent years, and for other items, such as track-laying, and perhaps other construction items?

A. I have.

Q. And did you make that examination with special reference to the lines mentioned in Hogeland's Ex. 4, recently constructed lines, in this state?

A. Yes; Mr. Hogeland's Ex. 4 covering the cost of grading, Mr. Hogeland's Ex. 6, covering the cost of ballasting, and Mr. Hogeland"s Ex. 7, covering the cost of track-laying and surfacing.

Q. I ask you to take those exhibits and analyze them, and state what information you have derived from the examination of the records.

A. It will be noted on my Exhibit C that the cost of grading, clearing and grubbing on the Great Northern lines per Ex. 2, Mr. Hogeland, is given at $21,644,343.42; that my estimate for June 30, 1907 (which agrees with it and substantially the same quantities) is $16,531,191.24; or a difference of about $5,100,000. Under item 6, also shown on Ex. C-Morgan, the cost of ballasting as returned in Ex. 2, Mr. Hogeland, is $3,840,590 as against $2,870,472.43, being a difference of something over $960,000. Under item 10, Track-Laying and Surfacing, Mr. Hogeland's Ex. 2 shows $2 377,111.80, and the estimate of the State, as of June 30, 1907, is $1,366,615.25, or a difference of practically $1,000,000. (I have prepared some manuscript; if I am permitted to refer to it here quite generally, it will probably help me in getting the matter in shape before the Court.) In respect to item 2, Grading, in which there is considerable difference in the quantities and prices, as between the estimate prepared by the State, and that of the Great Northern Company in this case, there are a number of things to which I desire to call attention

as explanatory of these differences. An analysis of how the grading quantities on the Great Northern were made up in the estimate of the Company is important.

First, so far as the Company had construction records, in respect to the lines in Minnesota, the quantitities of material of various kinds were taken from the final estimates. These final estimates show the classification of material as earth, hard-pan, loose rock and solid rock.

Second, the quantities appearing in the final estimates were arbitrarily increased from five per cent to twenty per cent to cover work subsequently done but not of record on the books; the classification of material was arbitrarily increased for the hard-pan, loose and solid rock, by adding percentages to the total for the different classes of material shown in the final estimate, so that the hard-pan in instances is increased 400 to 500 per cent, the loose and solid rock from 10 to 50 per cent more than the final estimates show.

Third, the records of the Company were then examined, covering the authorities for expenditures which had been made subsequent to the original construction, and charged to grading account, such as steam-shovel and train-work for filling sink-holes, raising sags, widening dumps, filling bridges, changes of line and grade, etc.

Q. What do you mean by "authorities"?

A. Under the plan of doing work on the Great Northern—and, in fact, on nearly all lines—it is necessary to put a curb on the hirelings and underlings; they would run away probably, in some cases, with all the money the Company had, in expenditures, unless it was curbed by the higher authority of the company. In other words, it is necessary for the president or the vice-president, or some high official to have a line upon all expenditures made for improvements, betterments or additions, and that is done, as I say, on nearly all, in fact, on all railroads; so that, before a piece of work can be done, it is necessary

to receive the authority of the president or of some officer authorized to pass upon those things.

The result of the Company's investigation into this extra grading work did not disclose sufficient quantities of material now in the lines to equal the quantities which were in the first place derived by taking the final estimates and adding thereto the arbitrary percentages in addition to the extra steam-shovel work on record in the books of the Company.

Now, I desire to illustrate this with a specific example, so that it will be perfectly clear and, for this purpose, take the line from Sauk Center to Park Rapids. The final estimate was 1 302,979 cubic yards, to which amount the Company arbitrarily added ten per cent, or 130,297 cubic yards, which it was supposed would cover the extra work done on that line. In searching the records for authorities for expenditures made subsequent to original construction, the Company was able to find 129,520 cubic yards put in after the original construction. This was made up as follows:

Bridge filling	34,021	cubic yards
Grading side-tracks	14,753	" "
Bank widening	80,756	" "
Total	129,520	" "

Both the ten per cent, or 130,297 cubic yards, arbitrarily assumed, and the authority work, found to have been done amounting to 129 520 cubic yards, were then added to the original estimate to swell the quantities to 1,562,800 cubic yards, it being apparent that the Company has nothing to show for the ten per cent or 130,297 cubic yards arbitrarily added.

This is the plan followed by which the Great Northern Company gets 2,367,949 cubic yards on its System in Minnesota, shown in Mr. Hogeland's Ex. 3, fourth column, entitled "Extra Work Not on Record." This 2,367,949 cubic yards may look insignificant, surrounded as it is on that exhibit, by very large

figures, but it will build 120 miles of average line such as the Great Northern has in the state of Minnesota.

In the estimates prepared of the Great Northern by the State, this 2,367,949 cubic yards which the Company derived by that process has been excluded.

There is also another element of conjecture in the quantities returned by the Great Northern Company in which 3,888,088 cubic yards of steam-shovel work, done between 1899 and 1904, has been arbitrarily assigned to Minnesota lines, according to recollection rather than record. Much of this work was done near the Minnesota-Wisconsin state line, and while the State has, in most cases, accepted the reported steam-shovel work, the Company has been unable to produce any data of a conclusive character with which to verify the assignment of yardage to Minnesota, and for reasons which will become obvious, the steam-shovel work has not been underestimated, to say the least.

On the lines where no construction records were available, the profiles were used by the Company in making up the quantities. For example, the original profile of the line from Minneapolis to Breckenridge was used in making the computations, but owing to very extensive grade revisions on that line it is apparent from an examination of the profiles that where cuts were made in the original construction there are now fills, and vice versa, due to changes in the grade lines. There is also an important change of line, which likewise constitutes a duplication in the reproduction quantities. The Company admits abandoned roadway as having been included in its estimate of nearly 500,000 cubic yards.

It appears that every means has been used to increase the quantities and adjust the classification to produce first, the largest possible yardage, and, second, very high prices for doing the work. As illustrating this, I desire to make mention of the line of the Great Northern from Northtown Junction to St. Cloud, which also parallels the Northern Pacific between those points,

and which two lines of railway are operated under a contract for the use of the main tracks as a double-track operating proposition.

Preparatory to entering into this double-track arrangement, the respective properties were valued, in 1906, by Mr. Darling, chief engineer of the Northern Pacific, and Mr. Hogeland, chief engineer of the Great Northern. The written instructions of Mr. Hogeland to his principal assistant, under date of April 25, 1906, stated that the prices of labor and material are to be as of that date, and the estimate is to represent the cost of reproducing the property to be used jointly. The grading on this line, as returned in the estimate made by Mr. Hogeland is 21 cents per cubic yard, not including the overhaul, ditching, freight on contractor's plant and transportation of labor. The items above mentioned and which are enumerated in his estimate, amount to $15,121, which if added to the contract price of the 707,462 cubic yards of grading at 21 cents, increases the total estimated cost of the grading to 24 cents per cubic yard. Mr. Darling's estimate for the Northern Pacific grading is 21 cents per cubic yard, not including the overhaul, freight on contractor's plant, and transportation of labor, amounting to $10,300, which, if added to the contract price of the 746 800 cubic yards at 21 cents, increases the total estimated cost of the grading to 22½ cents per cubic yard. Mr. Darling, in his testimony, page 143, states that the grading on this line is worth about 18 cents per cubic yard, and on page 148, that that portion of the line between Northtown Junction and Sauk Rapids (Sauk Rapids is just above St. Cloud) would cost the Company about 23 cents or 24 cents per cubic yard, and on page 159, that the Company originally paid 14¾ cents per cubic yard. The estimate of the cost to the Company for grading both the Great Northern and Northern Pacific lines, between Northtown Junction and St. Cloud, as prepared by the State, is 23 cents per cubic yard. So that it is apparent that Mr. Hogeland's estimate of a total cost

to the Great Northern Company of 24 cents per cubic yard, Mr. Darling's estimate of a total cost to the Northern Pacific Company of 22½ cents per cubic yard, and the State's estimate of a total cost to the Company of 23 cents per cubic yard, represent three separate estimates of the grading upon these lines, which are in very close accord. In this connection, I desire to state that I know nothing of, nor did I see the Great Northern and Northern Pacific estimates on these lines, until after my report was made up and submitted to the Commission. The Great Northern Company, in preparing its estimate to the State and in submitting its estimate to this Court, covering this identical line,—the reproduction cost of the grading per yard to the Great Northern Company, is given at 31.3 cents per cubic yard, or 7.3 cents per cubic yard above what the chief engineer estimated the cost per yard in preparing his estimate for joint running rights with the Northern Pacific Company.

The clearing and grubbing on this line, as returned by Mr. Hogeland in his valuation for joint running rights with the Northern Pacific, amounts to $1,675. The estimate returned to the State by the Great Northern Company, and also submitted to this Court, puts the cost of the clearing and grubbing on that line at $25,630, or $23,955 more than was used in the estimate for joint running rights with the Northern Pacific.

The prices returned for grading by the Great Northern Company, are, in my judgment, unreasonably high and there is evidence which goes to show that the classification of material has been made in such a way as to enhance the total cost of the work, and in this way produce excessive units of cost. To illustrate this, let us consider the line of the Great Northern Company from Willmar south to the state line at Jasper, 122.64 miles. The final estimate on this line showed 114,097 cubic yards of hard-pan. The estimate returned to the State and submitted to this Court by the Great Northern Company, shows 545,810 cubic yards of hard-pan. This was arrived at by the

Great Northern Company arbitrarily fixing about 12½ per cent of the present quantities as hard-pan. From the time the line was originally constructed to the present date, improvements made in the way of bridge filling, bank widening, new side-tracks, and snow-cuts etc., increased the cubical contents in the line about 56 per cent. During the same time, the hard-pan, according to the Great Northern estimate increased about 400 per cent over and above the amount of hard-pan contained in the original construction. The solid rock increased from 4040 cubic yards to 6112 cubic yards; the loose rock from 3258 cubic yards to 4890 cubic yards the lesser figures representing all the Company has to show on its books for loose and solid rock moved on this line from the date of construction to the present time. The average cost of the grading on this line, as returned by the Great Northern Company, exclusive of loose and solid rock, is 31.44 cents per cubic yard. In the estimate prepared by the State, 26 cents has been used as the average cost of grading this line, exclusive of loose and solid rock; and in support of this cost figure, I desire to call attention to the reports submitted to the State by five different companies whose lines of railway intersect the Great Northern line between Willmar and Jasper at ten different points.

Chicago, Milwaukee & St. Paul.....	2 crossings
Chicago & Northwestern	2 crossings
Chicago, Rock Island & Pacific.....	2 crossings
Minneapolis & St. Louis	1 crossing
Chicago, St. Paul, Minneapolis & Omaha	3 crossings.

The cost of reproducing the grading on these various lines in the districts in which they intersect the Great Northern, ranges between 25 cents and 29 cents per cubic yard, and the average cost per cubic yard of all of the lines crossing the Great Northern through this territory, is 26.6 cents per cubic yard; so that, in this instance it is disclosed that the average reproduction-

cost returned by these substantial railway systems, and the reproduction-cost applied as the result of my own investigation and judgment, are very close, and yet it is much below what the Great Northern Company claims as the present cost of grading its line from Willmar to Jasper, to-wit: 31.44 cents per cubic yard. The average contract price for building this line, in the first place, was about 17 cents per cubic yard.

The same method of the classification of material and of high prices, characterizes the entire grading report of the Great Northern Company, which some further examples will suffice to illustrate. On the line from Brookston to Ellis, the final esimate shows 44,952 cubic yards of hard-pan; in the estimate to the State, as well as to this Court, the hard-pan is returned at 171,530 cubic yards. The loose rock which in the final estimate amounts to 24,400 cubic yards is increased to 36,500 cubic yards.

On the line from Deer River to Fosston, the final estimate for hard-pan is 48,030 cubic yards which has been increased to 168,610 cubic yards. The loose rock which amounted to 26,774 cubic yards, has been increased to 40,170 cubic yards.

On the line from Mississippi river to Dewey Lake, for which a profile estimate was made, and to which 300,000 cubic yards of steam-shovel work was arbitrarily added, shows 307,950 cubic yards of hard-pan, or about 30 per cent of the entire quantities on that line.

On the line between Cloquet and Wisconsin state line, the final estimate shows 19,349 cubic yards of hard-pan. This has been increased to 204,470 cubic yards of hard-pan, and the loose rock from 11,031 cubic yards to 16,550 cubic yards.

On the line from Willmar south to the state line at Jasper, the final estimate shows 114,097 cubic yards of hard-pan, which has been increased to 545,810 cubic yards. Now, take the lines enumerated. I desire to show first what percentage of the original construction work was hard-pan, as shown by the final

estimates, and second, what percentage is hard-pan as claimed by the Company at the present time and submitted to the Court in its reproduction estimate, taking into account subsequent work done to date.

On the line from Brookston to Ellis, 4 per cent of the original quantities were hard-pan; in its reproduction estimate, 11 per cent of the present quantities are returned as hard-pan. On the line from Deer River to Fosston, originally 2 per cent hard-pan, now 5 per cent of hard-pan. On the line from Chisholm to Virginia, which covers the main line only, originally 5 per cent, now 10 per cent. Cloquet to Wisconsin state line, 1½ per cent originally, now 9.7 per cent. St. Cloud to Barnesville originally 2 per cent, now 10 per cent; Sauk Center to Park Rapids, originally 2 per cent, now 8 per cent; Willmar to Jasper, originally 4 per cent, now 12½ per cent. A very large percentage of the work which has been done since the original construction is steam-shovel and train-work, the material handled being taken from gravel-pits and accessible points to the improvements, and while it is doubtless true that some additional hard-pan was taken out, it is not at all probable that it was sufficient to so disproportionately increase the percentage of hard-pan as shown for the entire quantities as of this date. In substance, this increase of hard-pan means that of the 4,428,830 cubic yards of material put in for improvements on these lines in question, most of which was moved by steam-shovel and train service subsequent to the original construction, that about 37 per cent of it was hard-pan, while for the original construction of these very lines, covering the handling of nearly 9,000,000 cubic yards, the hard-pan did not average more than 3 per cent of the quantities moved. This figures of 37 per cent is derived by subtracting the hard-pan moved in original construction from the hard-pan reported in Ex. 2, Mr. Hogeland, and dividing the remainder by the number of cubic yards moved on these lines for improvements subsequent to the original con-

struction, and for which the Company has records.

Now, I should like to present in detail some data in respect to the prices at which grading has been put in by the Great Northern Company, and to start with, Mr. Hogeland's Ex. 4, showing the so-called constant, is of first consideration. I have marked this "copy of Ex. 4" so that you can follow it readily, and also Exhibits 6 and 7. Ex. 4; the principal purpose of Mr. Hogeland's Ex. 4 is to show that grading costs very much more than the contract price, and that upon such statement as prepared and submitted to this Court, the Great Northern Company undertakes to justify the high prices for grading returned in its estimate of reproduction. I should like to show just how Ex. 4 was prepared; and in order to do so, I have examined the construction records of the Great Northern Company covering several of the lines in Minnesota. Take the first line of entries on Ex. 4, Cloquet to Boylston, Deer River to Fosston. There was moved under the contract 3 997,170 cubic yards by the contractors at an average contract price of 22½ cents per cubic yard, equal to $899,363.25. I would like to state, your Honor, that that amount is not shown on that exhibit, but it is produced by multiplying the number of cubic yards shown there by the average contract price, and produces the figure of $899,363.25. The ultimate cost of the grading to the Company is reported on Ex. 4 at $1,411,645, or an average cost of 35.3 cents per cubic yard for the 3,997,170 cubic yards moved by the contractor under the contract. The difference between the total cost to the Company and the amount paid the contractor under the contract is therefore $512,281.75 which is classed as extra bills, etc., as follows:

Superintendent's charges	$249.746.28
Freight charges	5,688.15
Repairs of equipment	1,085.83
Rent of equipment	1,935.04
Work train service	12,288.85

Extra gangs, tools, and supplies	386.39
Refund of railroad fares	264.18
Killed and injured	1,739.17
Damage to property	11.50
Transportation of men	69,906.38
Transportation of material	45,551.72
Total	$388,603.49

There were additional charges for force account work, labor and for overhaul, and additional charges amounting to $123,678.26, bringing the total up to $512,281.75, which is the difference between the contract price and the ultimate cost of the work.

Mr. How: What did you say the first item was of the superintendence?

WITNESS: $249,746.28.

It was stated in the testimony of Mr. Hogeland that the quantities which go to make up these extra charges cannot be measured. This is true to a certain extent, but I find from the records of the Company that a reasonably close approximation can be made of a large part of the yardage so moved, and if the average cost per yard to the Company is to be determined, it must be obtained by using, so far as it is possible to do so, the total yardage that went to make up the total charges.

In reviewing the construction accounts on this line, the following are some of the items that appear to bear directly on this matter of extra charges to grading:

Audit No. 84, of January, 1899, $8,416.84, for 21,607 cubic yards of grading done on the Northern Pacific line to adjust the grade of the two lines for a crossing. The bill covers labor, ballasting, steam-shovel expenses, train service, putting in cast-iron pipe etc. The work was done by the Northern Pacific Company and charged to the Great Northern, and appears in the construction accounts as above stated.

Audit No. 17, of July, 1899, for $24,488.51 charged to grading for 2480 carloads of material taken from gravel-pit for widening dumps, raising sags, surfacing track, for wages of steam-shovel and traincrews between Cloquet and Boylston.

Audit No. 21 for September, 1899, $13,189.77, for widening dumps, sloping fills, general repairs to track, ditching, surfacing track raising sags, repairing slides, widening cuts, moving steam-shovels, expenses of steamshovel and extra crew, ballasting, etc., extra gang work apportioned to grading on the basis of the number of carloads of material unloaded on the line between Cloquet and Boylston.

Audit No. 11, of May, 1899, $4,212.71, for extra gang work, widening dumps, sloping fills, raising sags, etc. The distribution of expenses of supplies furnished steam-shovel at Carlton pit, for the season of 1899, shows 7310 cars unloaded during the season, of which amount 5641 cars were charged to grading on the line between Cloquet and Boylston as follows:

From folio 178, material distribution of February 1900, 5188 carloads placed between Cloquet and Boylston, 109 carloads placed in Cloquet yard, 40 carloads on the paper-mills spur, 96 carloads filling bridge No. 4, 48 carloads filling bridge 5, 60 carloads raising Klondike fill, 100 carloads on the rock fill near Carlton; total, 5641 cars charged to grading on the line between Cloquet and Boylston for the season of 1899.

President's authority for expenditure No. 2188, audit J-923 of February, 1900, for $4,703.85 for labor performed by extra gangs Nos. 7, 8, 9, 10 and 11, charged to grading.

Audit No. 1 of 1900 for $17 208.12 for extra gang work, surfacing track, widening dumps, widening cuts, raising sags, ditching, widening shoulders, and steam-shovel expenses, etc.

Audit No. 3, June, 1900, $2,245.75 for raising sags, widening dumps, leveling grades, steam-shovel and traincrew expenses, labor and material for work done on the loop line, apportioned on the basis of cars unloaded, 502 carloads being charged to grading.

President's authority No. 3476 Audit J-1202, of January, 1901, for $1,388.87. For gravel taken from Lindsay pit, covering 4464 cubic yards of grading at 24 cents per cubic yard.

Audit No. 2, February, 1901, $2,405, for setting up steam-shovel, widening cuts, etc. This voucher shows that the operation of Lindsay pit for the season of 1900 was 17,088 carloads of gravel, of which amount there is charged to grading on this line as follows: 663 carloads on the loop line for shouldering, 3 carloads near bridge 3, 7 carloads filling bridge 7, 18 carloads widening dumps; total 688 carloads for the season of 1900.

President's authority, No. 3738, Audit J-1500 of March, 1901, material distribution, $1 722.12, for widening cuts on loop line, supplies for steam-shovel, repairs and store charges.

This statement shows 19,134 Peteler cars unloaded, charged to grading on this line. The work was done by steam-shovel E-51 2½ yard dipper, and the total yardage handled is 38,263 cubic yards.

On the line between Deer River and Fosston, the following charges appear:

Grading siding at Cass Lake	108	carloads
Grading siding at Bena	72	"
Grading siding at Farris	270	"
Grading yard at Cass Lake	1132	"
Total	1582	"

Grading new sidetrack at Bemidji	1542 cubic yards
Grading new sidetrack at Lengby	2497 cubic yards
Grading and extending passing tracks at various points mostly on President's authorities	19524 cubic yards

As previously stated, these are a few of the items appearing on the construction books. The complete statement of the yardage moved is reported in the annual reports of the chief engineer, giving the data in detail, in respect to the handling

of every cubic yard of material that went into the line from the time the final voucher was paid to the contractor in 1899 to the close of the fiscal year ending June 30, 1907.

Now, I would like to explain a little bit about the operation of that. The organization of an engineering department on a railroad is such that the chief engineer is reported to by his division engineers, and each year and at the proper time the necessary instructions are issued to the division engineers who are located at different points on the System to make up a statement of the character and amount of work which has been done during the previous year, and the fiscal year is used as of June 30, for each year. Now, such instructions are issued from the office of the chief engineer of the Great Northern, in which he requests that the division engineers shall furnish a statement in detail showing the number of cubic yards of material put in, between what points, and the length in miles of track ballasted, bank widened, banks restored to grade, sags taken out; a statement in detail showing the number of cubic yards of material moved on each change of line, between what points, and the length of change and the new line; a statement in detail showing the number of cubic yards moved on each change of grade, between what points, and the improvements in grade made by the change; a bridge filling statement, showing in detail the number of cubic yards put in at each bridge filled or partially filled during the year; and the division engineers are cautioned that in making up these statements particular care should be taken to see that no work is included in the statement which was shown in the report for the previous year; special care being taken that the bridge filling report, where work has been done under authority, the number of the authority is to be shown. and where it has been done with no special authority, the reference should be given to the date and to the authority for doing that particular work. Now, I desire to call attention particularly to the following facts:

First, the construction books were kept open from November, 1897, to September, 1903, five years and eleven months. The final voucher was paid the contractor in 1899.

Second, the Company claims that between 1899, when the contractor was paid off, and 1905, inclusive, on this line between Boylston and Cloquet and Deer River to Fosston there were 990,415 cubic yards of steam-shovel work done, and that on June 30, 1907, the date of the reproduction estimate, the Company had put in a total of 1,330,130 cubic yards of grading as follows:

Extra work, steam-shovel work	990,415 cu yds.
Extra work on record other than steam-shovel between Cloquet and Boylston	157,142 cu. yds.
Extra work on record other than steam-shovel between Deer River and Fosston.....	182,573 cu. yds.
Or a total to June 30, 1907, of	1,330,130 cu. yds.

Now, in going through the records and annual reports, I find that of the 1,330,130 cubic yards of steam-shovel and extra work handled up to June 30, 1907, 486,482 cubic yards were put on the line after June 30, 1903, leaving a balance of 943,648 cubic yards of steam-shovel and extra work that went into the line, in addition to the contractor's yardage up to the time that the construction books were closed in September, 1903, and it is this 943,648 cubic yards that accounts for a part of the extra charges to grading amounting to $512,281.75. This 943,648 cubic yards is yardage which Mr. Hogeland testified could not be located in their records.

Now, if this 943,648 cubic yards is added to the 3,997,170 cubic yards moved by the contractor, shown on Mr. Hogeland's Ex. 4, there is a total of 4,940,818 cubic yards of material to be considered that went to make up the total charges shown in the next to the last column on Mr. Hogeland's Ex. 4, and the average cost to the Company is 28½ cents per cubic yard, instead

of 35.3 cents per cubic yard as shown on Ex. 4. In all of the superintendent's charges for labor employed, ten per cent is added for superintendence, and then per cent for store charges is added on all materials and supplies furnished.

The Company is claiming in Ex. 2, cost of reproduction, 39.4 cents per cubic yard, for grading this line, exclusive of loose and solid rock, or 16.9 cents per cubic yard more than the average contract price, and 10.9 cents per cubic yard more than it cost the Company with all the extra charges added in as shown on Mr. Hogeland's Ex. 4. The State is allowing 34 cents per cubic yard on this line, so we have the complete comparison. It actually cost 28½ cents; the Railroad is claiming in Ex. 2 39.4 cents, and the State is allowing 34 cents.

Incidentally, I desire to make mention of some facts connected with the construction and final voucher to contractors for the construction of this line. The total cost of the clearing and grubbing on this line, as taken from the final estimate, was $78,109.54. The reproduction estimated in this case, Mr. Hogeland's Exhibit 2, the clearing and grubbing is raised to $177,597. The State's estimate for clearing and grubbing is $134,625. The original unit price for clearing was $25 per acre, grubbing $1.25 per square rod, as against unit prices in Great Northern Ex. 2 of $75 per acre for clearing, and $1.65 per square rod for grubbing. The labor of tracklaying was contracted for at $225 per mile, covering 134.6 miles.

Now, I desire to take up the consideration of the line from Brookston to Ellis, 46.49 miles long, also shown on Mr. Hogeland's Ex. No. 4. There was moved under the contract 1,069,824 cubic yards, at an average cost of 22.4 cents per cubic yard, equal to $239,640. That amount is not shown on Ex. 4, but it is produced by multiplying the contractor's yardage by the average price. It is claimed by the Company that the total charge to grading on this line is $358,535, or an increase of $118,895, over and above what was paid to contractors for

work done under the contract. This additional amount has been divided by the Company as follows:

Extra bills paid contractors	$7,701.11
Overhaul	19,193.38
Superintendent's charges (labor and material furnished).....	62,323.84
Freight charges	9,347.53
Transportation of men and material	16,354.55
Corduroy	2,318.50
Not classified	1,656.09

Making a total of.....$118 895.00 extra charges.

This $118,895 is then added to the amount paid contractors, ($239,640,) and produces the $358,535 of total charges to grading shown on Ex. 4, which is then divided by the number of cubic yards of material moved by the contractor under his contract, viz: 1,069,824 cubic yards and the price of 33.5 cents is the result.

The comparison is then made between the 22.4 cents and the 33.5 cents, and gives the so-called construction constant of 11.1 cents.

The final estimate on this line, in favor of A. Guthrie & Co., was vouchered July 12, 1901, for $265,948.69. The line was opened for revenue traffic August 4, 1901; between that date and June 30, 1905, four years after the payment of the final voucher to the contractor it was found from the construction books that $118,895 had been charged to grading on this line, of which amount $62,323.84 is for superintendent's charges.

Superintendent's charges include all labor and material expense incident to doing work on the line. Wages of train crews, steam-shovels extra gangs, and the materials and supplies furnished in connection therewith, which may be very properly charged to the grading. In going through the construction rec-

ords of this line, I have located $52,777.78 of the $62,323.84, superintendent's charges, and wish to point out what it was expended for. I have the details of date, the voucher number for labor and voucher number for material, and the amounts of each as taken out of the records and distributions of labor and material to which I desire to refer, as follows:

June, 1901, journal voucher 1325, labor to grading, and journal voucher 1548, material to grading, a total of $3347.68, covering 302 cars taken out of Flint pit.

July, 1901, journal voucher 1717, material, and journal voucher 1537, labor for $5732.25, covering 427 carloads taken out of Flint pit.

August, 1901, journal voucher 1425, labor, journal voucher 1533, material, $1923.13 for 67 carloads taken out of Flint pit, and for 334 carloads taken out of Para pit on president's authority for expenditure.

September, 1901, journal voucher 1599 ,labor to grading, journal voucher 1856, material to grading, for $5317.46, covering 947 carloads of gravel taken out of Flint pit for raising sags etc., 82 carloads taken out of Flint pit for the Arlberg sink-hole, 72 carloads taken out of Flint pit for the Baden sink-hole, and 69 carloads taken out of Flint pit for Saxe sink-hole.

October, 1901, journal voucher 1593 for material, and journal voucher 1412 for labor, amounting to $3165.05, covering 660 carloads out of Flint pit on president's authority No. 4069, for the Stony Brook new yard tracks.

November, 1901, journal voucher 1609, for labor, and journal voucher 1637 for material for $179.45. That is labor account apportioned on the basis of the number of cars unloaded in September.

December, 1901, journal voucher 1478 for labor, and journal voucher 1749 for material, amounting to $5274.59 for 1432 carloads of gravel taken out of Ellis pit and put in sink-hole two and one-half miles from Ellis.

January, 1902, journal voucher 1692, material, journal voucher 1600, labor for $4199.49, which is apportioned to this line on the previous month's loading.

For February, 1902, journal voucher 1584, for material amounting to $1324.79, for 537 carloads taken out of Ellis pit for new sidetrack at Ellis, 47 carloads taken out of Bohl pit for new sidetrack at Ellis and 122 carloads taken out of Ellis pit for new sidetrack at Ellis, all on president's authority number 5363.

March, 1902, labor account, April, 1902, journal voucher 1472 for labor, journal voucher 1735 for material, $1897.31 for 20 carloads out of Para pit to the Ellis sink-hole, 99 carloads out of Kelley Lake pit put on the line between Ellis and Saxe.

Journal voucher 1495, labor and journal voucher No. 1499, material, for $3363.48 for 139 carloads taken out of Kelly Lake pit for grading on line, and 337 carloads out of Para pit for the same purpose.

Voucher No. 1286, labor, and journal voucher 1502 for material for $4759.21, covering 458 carloads taken out of Para pit for the sink-hole at Saxe, 22 carloads taken out of Para pit and put in a sink-hole at mile-post 70½ and 66 carloads taken out of Para pit for the extension of passing track at Para on president's authority No. 6167, 187 carloads taken out of Para pit for extending the passing track at Baden. That is also on president's authority No. 6167; 40 carloads taken out of Para pit for the Ellis sink-hole.

July, 1902, journal voucher 1545, labor, journal voucher 1705, material, for $4079.60, covering 40 carloads out of Para pit put in a sink-hole on the main line, 80 carloads taken for same purpose and 20 carloads again for the same purpose, 262 carloads out of Para pit for filling Baden passing track, and 256 cars out of Para pit for filling the Para passing track.

November, 1902, journal voucher 1349 for material, and 1320 for labor, $1174.85, covering 18 carloads taken out of Kelly

Lake pit and put in the sink hole at mile-post 100.

April, 1903, journal vouchers 1885, for $6,632.34, covering 661 carloads taken out of Para pit for the Arlberg passing track, 232 carloads taken out of the Para pit for the Fermoy passing track; 557 carloads taken out of Para pit for the Baden passing track; 81 carloads taken out of Para pit for the Ceylon passing track; 110 carloads taken out of Para pit for the Para passing track; 123 carloads taken out of Para pit for the Malden passing track; 308 carloads taken out of Para pit for the Dumblane passing track; 257 carloads taken out of Para pit filling approach bridge C-1; which makes a grant total of $52.777.78.

It appears from these records that that $52,777.78 expended by superintendents was the result of loading with steam-shovels approximately 9500 carloads of material out of Flint gravel-pit, Para gravel-pit, Ellis gravel-pit, Bohl gravel-pit, and Kelly Lake gravel-pit, together with the cost of transporting the same 9500 carloads to destination on the Brookston to Ellis line, the unloading and placing of the same by the necessary extra gangs to fill sink-holes, grade passing tracks, fill approaches to bridges, etc. The steam-shovel loading records of the Company covering 90,000 carloads of gravel loaded in the lake district during the last few years show an average of 20 cubic yards per car, and using the average so produced of 20 cubic yards per car, this 9500 carloads will closely approximate 200,000 cubic yards of material deposited on the line charged to grading, which is a part of the yardage Mr. Hogeland testified could not be located. The fact of the matter is, the Great Northern Company made no attempt to locate this yardage, because it is shown not only as I have worked it out from the construction books, but as I afterwards found its complete verification in the annual reports of the chief engineer, amounting to 198,492 cubic yards. If this 200,000 cubic yards is added to the 1,069,824 cubic yards moved by the contractor, there is 1,269,824 cubic yards to be considered.

Exhibit 4 of the Great Northern Company charges freight and transportation of men and material at full tariff rates. These are not cash transactions. The men traveled on passes, and the agents are relieved of freight charges at destination, so it becomes purely a bookkeeping account, and the charges doubtless represent a margin of profit to the Company. However it may be as to the propriety of allowing full transportation charges for men, materials and supplies, I desire to carry out this illustration on the basis of the figures presented by the Great Northern in Exhibit 4; therefore dividing the total charges to grading incurred during the four years the books were kept open, to-wit: $356,535, by the total yardage moved by the contractor, plus the 200,000 cubic yards subsequently moved by the superintendent, the average total cost to the Company is 28 cents per cubic yard instead of 33.5 cents per cubic yard as shown on Mr. Hogeland's Ex. 4.

Adjourned until Friday morning, June 4, 1909.

Federal Building, St. Paul, Minn., Friday, June 4, 1909, the hearing was resumed at 10 o'clock A. M.

DWIGHT C. MORGAN,

recalled for further direct examination, testified:

By Mr. O'BRIEN:

Q. Will you continue, Mr. Morgan?

A. Last night, when the adjournment was taken, we had reached a point in respect to the grading on the Brookston to Ellis line, which showed that the total average cost of the grading on that line to the Company was 28 cents a cubic yard instead of 33½ cents a cubic yard as shown on Mr. Hogeland's Ex. 4.

Now, in view of the application of the results of Ex. 4 as made by the Great Northern Company, I think a more correct

and fairer way to get a constant would be to take the total amount paid to the contractor for the work done under the contract, and add to it all of the extra charges for work performed by him on account of his contract, and divide it by the number of cubic yards handled under the contract.

Let us see how this will work out on the Brookston to Ellis line, taking the final estimate of the Company for that purpose. Paid A. Guthrie & Co. for the following work as contractor:

For 1,069,824 cu. yds. material at 22.4 cents.....	$239,219.42
" 1,919,338 cu. yds. of overhaul, at 1 cent.....	19,193.38
" Corduroy put in swamps	2,318.50
" Other extra charges to grading done by contractor	5,217.39
" Transportation of men at tariff rates.....	11,111.01
" Freight charges at tariff rates	9,347.53
Total charges	$286,407.23

which amount, divided by the 1,069,824 cubic yards moved by the contractor, equals 26.7 cents per cubic yard total cost as against 22.4 cents per cubic yard paid at the contract rate, giving a constant of 4.3 cents per cubic yard, instead of a constant of 11.1 cents per cubic yard as shown on Mr. Hogeland's Ex. 4.

If in the reproduction estimate, Ex. 2, the total yardage now in the lines of the Great Northern is used—and I desire to call particular attention to the fact that the total yardage has been used in Ex. 2—then, to get fair units of cost to substantiate the basis of that estimate, the examples used must, insofar as it is possible to do so, represent the total cubic yards that went to make the total charges in order to get the average cost per cubic yard. This has not been done in Ex. 4 of the Great Northern, nor has the Great Northern Company made any attempt to do it; but, on the contrary, testimony is in to the effect that it can-

not be done. Yet I have, on these two lines in question, been able to locate about 1,150,000 cubic yards of extra work charged to grading which Mr. Hogeland tesified, on page 1069, that without it Ex. 4 was as near the total yardage as he can come, and, on page 1074, that the Company could not find the extra yardage involved. Any application whatsoever of the data on Mr. Hogeland's Ex. 4, wherein he derives his so-called constant of 11.4 cents, which departs in that application from the original yardage moved by contractors is incorrect and misleading in the results it produces. The application as made by the Great Northern Company for the purposes of this case, is not confined to the original yardage moved by the contractor, but it is applied in the sense and for the purpose of justifying the high prices which the Great Northern Company has returned its reproduction cost of grading in Ex. 2, which it is to be observed is not confined to the original yardage moved by contractors, but to the total yardage in the lines today, comprising original contractor's work, steam-shovel work force-account work, in fact, all kinds of work that has been done, to bring the grading quantities up to what they show on item 2 of Ex. 2 for June 30, 1908. Now, let us see if this is not true. Comparing in detail Mr. Hogeland's Ex. 4 with Mr. Hogeland's Ex. 2, item 2 for this line, Brookston to Ellis; Ex. 4 shows 991,524 cubic yards of earth. Ex. 2 shows 1,435,080 cubic yards of earth, an increase of 443,556 yards; hard-pan, Ex. 4 shows 44,952 cubic yards; Ex. 2, 171,530 cubic yards an increase of 126,578 cubic yards. Loose rock, Ex. 4, 24,400 cubic yards; Ex. 2, 36,600 cubic yards, an increase of 12,200 cubic yards. Solid rock, Ex. 4, 8,948 cubic yards; Ex. 2, 9,850 cubic yards an increase of 902 cubic yards. Total, Ex. 4. 1,069,824 cubic yards, which is the amount moved by the contractor. Ex. 2, reproduction estimate, the total is 1,653,080, or a total increase on that line of 583,236 cubic yards.

It is claimed by the Company that this total increase of 583,-

236 cubic yards is on the following accounts:

Ditching, in 1901	4,525 cu. yds.
Grading, from annual report, 1906, on president's authority, No. 11,245, filling bridge approach	19 464 cu. yds.
Widening embankments, President's AFE	12,000 cu. yds.
Steam Shovel Reports, 1901-4	500,000 cu. yds.
Arbitrary (no record)	47,247 cu. yds.
Making the total	563,236 cu. yds.

It will be observed that Ex. 2 shows the total yardage as of this date. Now, to compare the prices per cubic yard which have been put in in Ex. 4 and Ex. 2, item 2, with the price allowed in State's Ex. C, cost of reproduction; Great Northern Ex. 2, item 2, shows reproduction price for grading of 40½ cents per cubic yard; Ex. 4, Great Northern, shows that the contract price was 22 cents per cubic yard, and that the total cost of the work was 33.5 cents per cubic yard. The State's average cost of reproduction of the grading is 36.7 cents per cubic yard. These figures show that, for the purposes of this case, the Great Northern Company has put in a reproduction cost of 40.5 cents per cubic yard for the grading, which is 18.1 cents per cubic yard above the average price paid the contractor, 6½ cents per cubic yard above the total cost as the Company estimates it in Ex. 4, while the price used in the State's estimate is 14.3 cents above the average price paid the contractor, and 3.2 cents above the total cost per cubic yard as the Company shows the total cost on Ex. 4; and if the total quantities moved by the contractor and the superintendent be considered, the price used in the State's estimate is 8.7 cents above the total average cost per cubic yard for grading on this line according to the final cost figures of the Company in Ex. 4.

There is no objection to Ex. 4, if the figures it produces are fairly applied. I do not think that the Great Northern Com-

pany can justly claim a fair application, and certainly the reproduction cost of the grading on this line as made up by the State, bears evidence that no attempt has been made to deprive the Great Northern Company of that to which it is justly entitled. I have prepared in detail, a comparative statement of the reproduction cost per cubic yard, from Mr. Hogeland's Ex. 2, the contract cost per cubic yard from Mr. Hogeland's Ex. 51, and the cost to the Company in the State's reproduction estimate, covering such sections of the line as enable comparison, and which shows as follows, as per Deft's. Ex. F-Morgan.

Mr. O'BRIEN: Said exhibit is offered in evidence.

WITNESS: Now, to refer for a moment to Ex. 51 of Mr. Hogeland: that is a statement which shows the quantities moved and the prices paid to contractors for grading on the lines of the Great Northern Company in Minnesota, for which they have the records and vouchers; and Morgan's Ex. F is based upon the reproduction estimate Ex. 2 and the contract price as shown by Mr. Hogeland's Ex. 51 and the State's reproduction estimate. The first column shows the section number into which the Great Northern lines have been divided in Minnesota; the second column shows the number of cubic yards on each section; the third column the total cost of reproduction as of June 30, 1908; and the fourth column the average cost of reproduction per cubic yard; the next three columns contain the same information taken from Ex. 51, which shows the number of cubic yards and the total amount paid the contractor and the average cost per cubic yard. The last three columns show the number of cubic yards, the cost of reproduction and the average cost per cubic yard as estimated by the State in its reproduction estimate. At the bottom it shows the averages, that on Mr. Hogeland's Ex. 2 the average cost per cubic yard is 34.1 cents, that the average price paid the contractor, was 20.9 cents, and that the average reproduction cost of the grading as made up by the State, is 28.8 cents per cubic yard. Now with respect to this table cov-

ering the grading which I have just explained, I desire to make it perfectly clear that the yardage moved under the original contracts for which the average price of 20.9 cents is obtained, amounts to 25,745,730 cubic yards, while the yardage necessary to be moved under the State's reproduction estimate at an average cost of 28.8 cents is 41,082,257 cubic yards, in which the State's estimate of quantities is in excess of the quantities moved during original construction 15,336,527 cubic yards, which excess is due to improvements put on the lines since original construction, so that to arrive at the average price per cubic yard of 28.8 cents it means that the 15,336,527 cubic yards put in in the way of improvements must be added to the original contract quantities at an average price of 42 cents per cubic yard to produce the average of 28.8 cents used in the State's reproduction estimate for these lines.

Mr. HOW: What accounts for the difference between the footing in the fifth column of your Ex. F and the footing of same column in Hogeland's Ex. 51, in yards?

WITNESS: I have just been explaining that, Mr. How.

Mr. HOW: Well, perhaps I wasn't listening intently.

Mr. O'BRIEN: Hadn't you better put that on the record?

WITNESS: The difference is due to the fact that the number of cubic yards shown in Ex. 51 at 25,745,730 cubic yards is the number of cubic yards moved by the contractor, in the State's reproduction estimate showing 41,082,257 cubic yards, that represents not only the yardage moved by the contractor, in the first place, but the additional yardage which has been put on the lines in the way of improvements.

Mr. HOW: You don't understand my question. Complainant's Ex. 51-Hogeland, which purports to be a statement showing quantities moved by. and the prices paid to, contractors for grading, for which vouchers are on file, shows 26,043,930 yards moved. You take three columns here from Hogeland's Ex. 51, and you make only 25,745,730 cubic yards moved as against the

26,000 000 odd. I ask what accounts for that difference.

WITNESS: That difference comes about from the fact that we made no appraisal of the Kelly Lake to Fermoy line, which is shown on Ex. 51, and also the Minneapolis Union is included in that estimate of which we have made a separate estimate; so that taking out those two lines from Ex. 51, we get the quantities which are shown on my Ex. F.

Now, while on this subject of grading quantities and prices, it is closely allied to clearing and grubbing, also shown on Mr. Hogeland's Ex. 4, and in respect to which I should like to make some comparisons. The final estimate of July 12, 1901, for the line Brookston to Ellis, shows 717.4 acres of clearing, costing $22,406.30, or at the rate of $31.23 per acre. The final estimate for grubbing shows 10,406.7 square rods, costing $13,008.36, or $1.25 per square rod. The total cost of the clearing and grubbing on this line from the final estimate is $35,414.66. The total cost of the clearing and grubbing in Mr. Hogeland's reproduction estimate, Ex. 2, is $70,134 or $34,720 more than it originally cost for the same number of acres of clearing and the same number of square rods of grubbing. The State's estimate for clearing and grubbing on this line is $52,875, or $17,460 more than it originally cost for the same number of acres of clearing and square rods of grubbing.

Take the item of ballasting, shown on Mr. Hogeland's Ex. 6. The first item, Brookston to Ellis, is the only one given for Minnesota. The total charges to ballasting on this line in the next to the last column, is $111,673 or 78 cents per cubic yard for the 143,100 cubic yards placed in column 2 of that exhibit. It is not difficult to get a high unit price for ballasting when the correct number of cubic yards of ballast moved is not applied against the total charges for doing the work, and this is precisely what has been done by the Great Northern Company. The annual report of the chief engineer for the fiscal year ending June 30, 1902, shows 246,864 cubic yards of gravel charged

to ballasting on this line. The annual report of the chief engineer for the fiscal year ending June 30, 1903, shows 15,543 cubic yards of gravel charged to ballasting on this line. The annual report of the chief engineer for the fiscal year ending June 30, 1905, the date on which the construction books closed, shows 58,471 cubic yards of gravel charged to ballasting on this line. So that during the time the construction books were kept open, there accumulated on the books, as shown by Mr. Hogeland's Ex. 6 $111,673 for ballasting, and these charges accumulated not for the handling of the 143,100 cubic yards of gravel as shown in the second column of figures in Mr. Hogeland's Ex. 6, but for the handling of 320,878 cubic yards of gravel. Now, it may be said that this is more ballast than is claimed and charged up in Ex. 2, item 6, ballasting, in the reproduction estimate, amounting to 143,100 cubic yards in that exhibit also shown in Ex. 6. The difference, 177,778 cubic yards, has not, however, been lost sight of by the Great Northern Company, but it has been added to the grading quantities, under steam-shovel work and at the same time the total charges against the 320,878 cubic yards shown on the books, and records of the Company to have been moved under the classification of ballast has not been used as a divisor in producing the unit of cost shown on Mr. Hogeland's Ex. 6. In other words, instead of dividing the $111,673 charged to ballasting on Ex. 6 by the 320,878 cubic yards which made those charges, the Great Northern Company used a divisor of only 143,100 cubic yards, thereby yielding a cost of 78 cents per cubic yard as shown on Ex. 6. Now, if the correct yardage had been used as a divisor, it yields 34 cents per cubic yard. It is desirable at this time to refer for a moment to Mr. Hogeland's Ex. 7,—track-laying and surfacing. On this same line from Brookston to Ellis, there is a charge of $7,875.49 under surfacing track that properly belongs under ballasting. Taking this item out of Ex. 7 and placing it in Ex. 6. the sum total charged to ballasting the

line Brookston to Ellis is $119,548.49, which amount divided by the 320,878 cubic yards of material that the records of the Company show to have been deposited on the line as ballast, it gives an average cost of 37 cents per cubic yard. From inquiries made as to how the Great Northern Company obtained the 143,100 cubic yards of ballast for this line shown on Ex. 6, I learned that it was purely an arbitrary amount and that no attempt had been made to analyze the records and ascertain the number of cubic yards moved in order to make the total charges. It becomes apparent, therefore, that when the construction records are analyzed and correct figures are used, the total average cost of the ballasting on this line did not exceed 37 cents per cubic yard, whereas, without either inquiry or analysis of the accounts and record, the abstract figures enable the Company to show 78 cents per cubic yard on Ex. 6 for this line.

Now, take Mr. Hogeland's Ex. 7, track-laying and surfacing. The line from Brookston to Ellis was laid by A. Guthrie & Co., under force-account. The total amount paid Mr. Guthrie was $17,597.79, or at the rate of $351 per mile. The engine and train service charges amounted to $4,857.76, or at the rate of $97 per mile. Then adding repairs of equipment, $43. and transportation, $4 per mile, as shown on Mr. Hogeland's Ex. 7, the total cost per mile is $495. It will be observed that the item of surfacing track shown on Mr. Hogeland's Ex. 7, is not included in this computation, because the line was ballasted immediately, and the charge of $7,875.49 for surfacing is properly chargeable to ballasting, and I have placed that amount under the charges to ballasting to produce the 37 cents or the just result.

But to make some further analysis of track-laying on this particular line, Brookston to Ellis, shown on Ex. 7, it will be noted that the first column shows the year in which the line was built; the second column the miles of track laid as of that

date; the balance of the line of figures for this line shows the charges that have accumulated on the books to track-laying from the beginning of construction in 1900 to June 30, 1905, the date on which the construction books were closed. Some of the extra charges to track-laying which are to be found on the books are as follows: Repairing side-tracks $673.54; clearing snow off of grade, $466.20; relaying steel, $36.17; relaying track and tie-plating, $262.10; relaying steel, $42.44; moving joint ties, account of relaying track, $44.90; relaying track, $297; spacing ties, account relaying track, $256.49; taking out spur-track and switches, $104.40; putting in spur-track for new bridge, $103.83; laying steel on coal-chute track, $100.82; picking up released steel, $47.30; changing out steel, $86.44; relaying steel, $107; spacing ties on account of relaying steel, $49; moving telegraph poles and wires on account of extension of passing tracks, $9.68; changing out surface bent rails, $32.05; changing out rails and angle-bars, $53.10; putting on tie-plates, $1,078.27; lining track between Arlberg and Dumblane, account of raising track to grade, $146.35; extension of passing tracks, $2,602.93, etc.

The relaying of rails (that means that rail is laid a second time) on this line was due to light rails having been laid for logging operations during the season of 1900. Now, without taking any of these extra charges out of the accounts as they stand, but allowing the full charges shown on Mr. Hogeland's Ex. 7, except the item of surfacing track, amounting to $7,875.49, which I have already included under ballasting, the total charges to track-laying for this line on Ex. 7 would be $31,242.66.

It will be observed that Mr. Hogeland's Ex. 7 shows for this line 49.98 miles of track involved in the charges to track-laying of which amount 46.49 miles is main track and 3.49 miles is sidetrack. Mr. Hogeland has not made that division on his statement, but that is taken from the records. In examining

the construction books, I found charges for extensions of side-tracks at various stations, and the annual report of the chief engineer for the fiscal year ending June 30, 1903, shows that the passing tracks at Arlberg, Ceylon, Fermoy, Malden, Baden, Dumblane, Para and Saxe, were lengthened during the year to provide 4800 feet of passing tracks at each of the stations named, which amounts to 7.65 miles of passing track on the line. Adding this passing track mileage to the main line mileage, the total mileage to be considered and against which the charges accrued, is 54.14 miles of track instead of 49.98, as shown on Mr. Hogeland's Ex. 7 so that the charges to track-laying, including all of the extra charges involving the relaying of the portions of the line with new rail during the five years the books were kept open, amounts to but $572 per mile for track-laying, and if the figures are taken at the time the line was first completed, it amounts to $495 per mile.

Before taking up further analysis of Ex. 6 and Ex. 7 of Mr. Hogeland, I desire to point out at this time that as of June 30, 1905, the total cost of the Brookston to Ellis line, as given on the construction books, including all bookkeeping accounts which do not represent cash outlay, is $1,132,446.12. The cost of reproducing this line, as given in my estimate to the State carrying the identical items, is $1,383,120, or $250,673.88 more than the line actually cost from their records.

Mr. HOLDEN: Does that include right-of-way?

WITNESS: Everything. Now, to go back to Ex. 7 of Mr. Hogeland, track-laying and surfacing, take the third item appearing on that exhibit, the line from Hibbing to Virginia, I desire first to call attention to the fact that Mr. Hogeland's Ex. 6, (Cost of Ballasting) does not show this line, (the only example of ballasting we have of lines in Minnesota is the one that we have analyzed, from Brookston to Ellis), but an examination of the construction books shows $12,378.92 charged to ballasting. This charge is all made up of wages of train crews,

steam-shovel work, materials, supplies, repairs etc., not one dollar being charged for the labor which was used to put the ballast in place under the track, or for raising the lining surfacing and dressing the track that was ballasted. The labor for ballasting is charged up under the caption Filling, Lining and Surafcing Track, which amounts to $22,219.65. Now, that caption, Filling, Lining and Surfacing of Track, is one of the items which is prescribed by the Interstate Commerce Commission for the keeping of construction accounts. And now, to refer to Mr. Hogeland's Ex. 7, Track-Laying, it will be observed that this same charge of $22,219.64 is made to appear as a part of the cost of track-laying and surfacing. This is manifestly incorrect, and if this charge of $22,219.64 is taken out of Ex. 7, where it is improperly placed, and is added to the $12,378.92 charged to ballasting, it makes the sum of $34,598.56 charged to ballasting the line Hibbing to Virginia; but here again the accounts are jumbled and need to be straightened out to get the facts. By the use of the word "jumbled" I mean that in the distribution of the expenses they have not been included under the proper headings and they have to be analyzed in detail to get the facts. The $12,378.92 charged to ballasting covers all but $1,206 of the total charges for train service, steam-shovel work, supplies and materials in handling 4809 carloads of gravel taken out of Kelly Lake and Mountain Iron pits. The annual report of the chief engineer shows the amount of material so handled in the 4809 cars to be 86,207 cubic yards, of which amount 39,240 cubic yards is chargeable to ballasting, and 46,967 cubic yards to raising tracks, filling sags, etc. Now under the charges to grading, there is a labor and material account of about $4,200 for handling some part of the 46,967 cubic yards of gravel unloaded. All this when brought into shape may be stated as follows:

Labor, Train Service, Steam-Shovel Work, Supplies, etc., given in construction books as lining, filling and surfacing tracks, $22,219.64.

Labor, Raising Track, Filling Sags, Widening Shoulders, given in the construction books as grading, $4,200.

Steam-shovel Work, Train Service, Materials and Supplies, given in the construction books under ballasting and grading, $13,584.92; making a total of $40,004.56; which amount, divided by the 86,207 cubic yards which went into the line from Kelly Lake and Mountain Iron pits, amounts to about 46 cents per cubic yard. To further illustrate what follows the employment of construction accounts and records without analysis, suppose I had arbitrarily taken the $12,378.92 charged to ballasting in the construction account and divided it by the 39,240 cubic yards of gravel that is classed as ballasting, it would produce 31 cents per cubic yard; but here, again, the $12,378.92 covers all but $1,p06 of the total train service and steam-shovel charges for handling 86,207 cubic yards of gravel put on the line, so that apportioning the $13,584.92 steam-shovel and train-service charges on the basis of the number of cubic yards, classed respectively as grading and ballasting, the cost of ballast as shown on the construction books would amount to only 15 cents per cubic yard, which is manifestly incorrect. And yet it would be no more unfair than that the Great Northern Company should show on Ex. 7 the cost of track-laying and surfacing the line from Hibbing to Virginia at $1,638 per mile by including therein $22,219.64 that any intelligent or fair distribution of the accounts would place against the 86,207 cubic yards of gravel that was loaded by steam-shovel and handled by train on the line between Hibbing and Virginia. It may again be referred to that the Great Northern Company did not choose to put in Ex. 6 the cost of ballasting on this line, but it did put in the cost of track-laying and surfacing on Ex. 7, which it appears reasonably should be reduced from $1,639 per mile to $662 per mile. All these charges to which I have referred on the different lines carry ten per cent superintendence charge for labor and use of tools, and ten per cent for store charges on

materials and supplies furnished. Now, while on this Hibbing to Virginia line, which is also a line of recent construction, the cost of the clearing and grubbing, according to the construction books, was $12,635.04. In Mr. Hogeland's Ex. 2, the clearing and grubbing is increased to $21,463.20. The State's estimate allows $17,250, which is about $5,000 more than it actually cost.

The total cost of the line, Hibbing to Virginia, according to the construction books, is $552,313, while the State's reproduction estimate is $814,814, or $262,501 more than the line actually cost the Company. The Company, as of June 30, 1906, had added some sidetrack mileage and claims 300,000 cubic yards of material put on the line, arbitrarily assigned by them from recollection, and which has been included in the State's estimate, thereby compensating for part of the difference in which the State's estimate exceeds the original cost.

Mention has been made of the considerable length of time that the construction books have been kept open on these lines and with respect to which I have examined the accounts, and this has some bearing upon the question of costs. The longer a house is owned, the more the money that goes into its up-keep, so if under the Great Northern system of accounting, the construction books are kept open for several years or a longer period of time after revenue traffic is being handled over the lines, the charges to construction accumulate. The Great Northern Company has not followed the same method of accounting pursued by other companies, but has thrown many charges to construction, additions and improvements that other companies, under their system of accounting charge to operation. This is quite forcibly disclosed by observing the ratio of operating expenses to gross earnings in the annual reports of the Great Northern Company, compared with the ratio shown by other railway companies. The relative efficiency of operation between the Great Northern Company and other railway companies cannot be taken from considering abstractly the relative

ratios of operating expenses to gross earnings, unless obtained by the same system of accounting. For example, the ratio of operating expenses to gross earnings of such lines as the Milwaukee, Northwestern, Omaha and other companies, during the past five years, ranges from 61 per cent to 66 per cent, while the ratio shown by the Great Northern Company during the same period shows from 47 per cent to 49 per cent, and for 1908 it jumps to 66.3 per cent. The latter figure is obtained, presumably, because of the observance of the same method of accounting prescribed by the Interstate Commerce Commission for all of the lines.

My purpose in making reference to this, is that under such a low operating ratio as the Great Northern shows, it necessarily places charges against construction, additions and improvements that other companies do not charge to those accounts, and which method, employed by the Great Northern Company up to 1908 accounts for the magnitude of the extra charges to construction appearing in the books and particularly noticeable in the vairous exhibits, and, on the other hand, it enables the Great Northern Company to show 15 to 20 points better operating efficiency than its neighbors.

I believe that is all I care to say at the present time.

Q. I desire to ask you whether or not, in your judgment, the prices, quantities and amounts shown on Ex. C-Morgan, fairly represent the maximum which would be required to produce the properties of the Great Northern Company in Minnesota.

A. I think the estimate of reproducing the properties of the Great Northern, as I have prepared it, is a fair estimate, and that with the intelligent use of funds the property ought to be reproduced for the amount that I have estimated.

Q. I have observed that in most of the illustrations you have given in analyzing the prices placed by you as to the cost of reproducing the road, those prices exceed the original cost of construction.

A. Yes, they do.

Q. By a considerable per cent, as I remember?

A. Yes.

Q. What, in your judgment, does that indicate with reference to the total prices as fixed by you?

A. Well, I think it indicates that the estimate is a liberal one. The examples which I have given of recent lines constructed show that my estimate exceeds what they cost, and that satisfies my mind that the estimate is a liberal one all the way through; that is the best index that we can have—the actual comparison.

Q. State whether or not in arriving at your total estimate, the particular lines the cost of which you have just analyzed were treated in the same manner as the other portions of the road.

A. Yes, precisely. The work of analyzing these construction accounts has just been done. I know nothing of the cost of the lines. My report was made up and finished some months ago, and I know nothing whatever of the cost of these lines that I have just analyzed, but I had the details, of course, and after I had gone over the accounts and found what the lines had cost, I made the comparisons between my estimate and what the lines cost.

Q. So that you selected those lines for analysis because those were the lines analyzed upon Mr. Hogeland's exhibits?

A. Yes. I regret that I was not enabled to have time to examine all of the items shown on Mr. Hogeland's exhibits, and I hope that before I get through with some of the work that is being done under my direction for the Interstate Commerce Commission, that they will all be analyzed.

Q. Those lines are also lines of recent construction?

A. Yes.

Q. Mr. Morgan, are you familiar with Hogeland's Ex. 1? which, as I remember, is the map showing the proposed method

of reconstructing the road.

A. Yes, I have examined it to a certain extent.

Q. You are also familiar with Mr. Hogeland's testimony with reference to the method of reconstructing the road?

A. Yes.

Q. Will you state whether or not, in your judgment, the proposed method of reconstructing the Great Northern lines in Minnesota is the most feasible and economical method, as that method is shown in Ex. 1 and in Mr. Hogeland's testimony?

A. I do not think it is. There are a number of plans that might be proposed for reconstructing the Great Northern property, but, considered from a practical standpoint if there is occasion for me to build a railroad, the first thing that I have got to consider is that I must build that railroad in such a way as to produce revenue just as soon as it can be done, and not build it in detached, disconnected portions, covering a period of eight years, by which process no revenue would be produced on the line. Now, the effect of Mr. Hogeland's plan of reconstructing or reproducing the Great Northern, the line from Crookston across to Duluth, which taps the wheat territory, is not connected up until the fourth year, and a considerable portion of that line runs through a timbered region, and it also stops the movement of timber and timber products for four years. The lines into the ore district, which produces an enormous tonnage and a large revenue, are not completed until the end of the eighth year; so that both the ore products and the timber products to be found in that region are not made available for revenue. The line from Willmar to Sioux Falls is not completed until the eighth year. Now, in the southwest, the wheat products that move from the southwest to the Head of the Lakes, is a very important traffic at certain seasons of the year, and one that would have to be cared for, and one that would certainly be looked into very promptly. The Red River valley is not connected with the Twin Cities until the seventh

year, so that the agricultural products are not available to the Twin Cities, nor are the manufactured products moving into the Red River valley available to that section of the country. So that I think, if it can be conceived that we are to reproduce a property, there are many different ways that it could be done, but I think in considering that problem we are bound to recognize the existing conditions as we find them, and, therefore, fit our reconstruction or reproduction process to those conditions as they seem to be best adapted.

Q. Under any circumstances, the problem of reproducing a railroad takes into consideration many imaginary circumstances, does it not?

A. Yes; it is purely a hypothetical case.

Q. When that test is applied to the repurchase of a locomotive or a car, or a steel rail, it furnishes an exact method of arriving at the present cost of that article new, does it not?

A. Yes.

Q. And when applied to actual construction work, if the quantities and prices in vogue at the present time are used, it, in the same way, gives a proper measure for ascertaining the present cost of construction?

A. Yes.

Q. Is it not true that when the purely imaginary circumstances are used for the purpose of causing an increased demand or an increased price, either of labor or materials, the value of the method is entirely destroyed?

A. Well, I think it is; I don't see any ground by which we can take imaginary conditions; I think we should be governed by the conditions as we find them at the present time. That has been the base upon which all the work has been prepared by the State. I have not undertaken to ascertain how much the price of ties was going to increase because we proposed to build a railroad that we are not going to build; the safest, sanest index is to take the current prices. I might say, in connection

with that subject, that railroads are introducing improvements of various kinds which are productive of economies; for example, the advance in the cost of cross-ties has been such that it seems very probable that, with the scarcity of timber, some other means of holding track in position may have to be resorted to, and that might be done in such a way as to practically eliminate any considerable maintenance expense; some of the lines are using some concrete ties now.

Q. If this hypothetical method of arriving at the value of railroad properties is to be used to any extent, its value depends on how far actual conditions and actual methods are adhered to?

A. It does, I think, entirely.

Q. Was there ever an instance of a railroad originally built in the manner as shown in Hogeland's Ex. 1, so far as you know?

A. Not to my knowledge.

Q. State whether or not, in your judgment, the method necessary to reproduce the road would have produced more correct results if the method in which the road was actually constructed had been more closely followed.

A. It would be pretty difficult to answer that question. Of course we know from the records how the road was actually constructed; but since the time the road was constructed there have been of course, great changes and developments, so that while the road might have been constructed, in the first place, in that way, it might not be, perhaps, reproduced in precisely the same way.

Q. You mean by that, that with the present conditions, the discovery of iron ore in the ranges, and matters of that sort, the road could be still more economically constructed?

A. Well, I think that it would be desirable to reach out to the fields of revenue first; that is, the important fields of revenue, where we can see that the building of the line is going to produce revenue, and it is the development that you speak of

that would govern in that respect.

Q. Would not that be doing exactly the same thing that you complain of in Mr. Hogeland's Ex. 1, departing from the actual facts, and dealing more with imaginary conditions?

A. Well, I should not undertake to rebuild the Great Northern line in this state upon the basis that Mr. Hogeland has proposed.

Q. Well, doesn't it come back to the proposition that, to reconstruct the road, the actual steps taken by the Road should be followed as closely as possible, and neither adopt a more expensive or impractical method or a better method than was actually adopted?

A. Well, I think it would be all right to follow the original steps.

Q. Now, the result of so following the original steps, as I understand it, in your judgment, would be a prompter and more economical method of construction than that shown in Hogeland's Ex. 1?

A. Well, I think that the estimated time which Mr. Hogeland has given for reproducing the Great Northern and the estimate that I have made is the same—eight years—so that, while it might be a better method, it would not, upon the basis of my estimate, be a prompter method, because we are estimating the reproduction time to be the same number of years.

Q. What have you to say with reference to the time which you have allowed in your estimates; that is, state whether or not it is your judgment that is a liberal estimate or otherwise.

A. Yes, I think it is a very liberal estimate of the time required to build the line and equip it.

Q. Have you recently made an investigation with reference to the time occupied by the Chicago, Milwaukee & St. Paul Road for the construction of its line to the coast?

A. Yes, I have made some inquiries in respect to that; I have some information with respect to the construction of the

Milwaukee line, which is being built across the continent. They have been engaged for three years in building the 1400 miles of line that they have constructed, which would be about 400 miles per year. They have made excellent progress on that line, almost a record, in respect to railway construction, and they have built the line, a considerable part of it, through a mountainous region, handling something over 60,000,000 cubic yards of material, 300,000 cubic yards of tunnel work, 21 miles of bridges. The construction of the line was commenced within two or three months of the time that the first surveys were made for it.

CROSS EXAMINATION.

By Mr. HOLDEN:

Mr. HOLDEN: Mr. Hogeland, if your Honor please, of course, is brought quite into the center of the stage in view of Mr. Morgan's examination, and I think it fair to say that last night he was called to Pennsylvania, on account of the very serious illness of his mother. He has been out on the line for several weeks and got here yesterday morning, and was immediately met by a telegram which took him away last night. For that reason, our future cross-examination of Mr. Morgan will necessarily have to remain uncertain as to the matter of time. I don't know how long Mr. Hogeland will have to be away, and after he returns we will necessarily want a reasonable time with him to go over Mr. Morgan's exhibits and his testimony. I think it is fair to make that statement now, but, in the meantime, I would like to ask Mr. Morgan a very few questions, to further open up some of the exhibits which have not been made clear, and then ask an adjournment of his cross-examination until a later time.

Q. I understand, Mr. Morgan, that in arriving at the values you have placed upon the lands of the Great Northern in this state, you followed substantially the same method outlined in

your testimony in the Northern Pacific case?

A. Yes.

Q. By that I therefore understand that, as to the terminals in St. Paul and Minneapolis and also at Duluth, you divided the lands into sections?

A. Yes.

Q. And followed the same method of ascertaining sales in each section, such as the records show, and also the assessed valuation, and established a ratio between assessed valuation and selling value?

A. Yes.

Q. You have all of those maps in your records, have you not?

A. Yes.

Q. The same details and same data for the Great Northern that you had for the Northern Pacific?

A. Yes, sir.

Q. Out in the country, I don't recall clearly what the method was, and I don't recollect that, yesterday, you stated that fully. Will you state now just what the method was?

A. We took the sales of property adjacent to each line of road through the respective counties. These records were taken at the county seats, and covered the sales of property within a mile and a half on either side of the center line of each line of railroad, and those sales were platted, and the average price per acre was ascertained through each county, on that basis.

Q. Let us see, a mile and a half on each side of the center line of the main track?

A. Yes, sir.

Q. That made a belt three miles wide?

A. Yes, sir.

Q. And you took each county as a unit by itself?

A. Yes.

Q. You did not subdivide the county into any smaller sections?

A. No, except in some special cases, where we were making some special investigation, but, as a rule, we took the average prices.

Q. And you had that same belt of three miles in each county?

A. Yes, sir.

Q. Now, in the villages or the smaller towns, was there any different method?

A. Well, that was arrived at by the special investigations that I made covering the value of lands in villages, as explained in the Northern Pacific testimony. We took a number of different villages, in different parts of the state, and got at the value of the lands; we also had some towns and cities where the right-of-way had been actually purchased by the railroad companies very recently, and that gave us a very good index in a general way.

Q. You said in certain villages you got at the right-of-way; I wish you would state how you got at it.

A. We got at it by taking the sales of property adjacent to the railroad in those villages.

Q. That would be of town lots?

A. Of town lots.

Q. You have got all that information extended on record in your office, haven't you?

A. Yes, everything is up there.

Mr. HOLDEN: Now, Mr. O'Brien, I know that there has been no offer made in this case, as was made in the Northern Pacific case, to allow us full access to Mr. Morgan's records. I don't comment on that in any way, except, as I assume, it was an oversight.

Mr. O'BRIEN: Yes, it was.

Mr. HOLDEN: We would like to have access to all of the

records of Mr. Morgan's office, or in the possession of the State, upon which the exhibits relating to the land or other matters in fact are based.

Mr. O'BRIEN: We make the same offer in that respect that we did in the Northern Pacific and Minneapolis & St. Louis cases. All of the matters referred to by Mr. Holden are open to the inspection of counsel or their assistants.

Mr. DURMENT: In the Northern Pacific case, as I remember, Mr. Morgan testified that, in addition to these land values which you have spoken of, he got the opinions of men in the localities as to the values of land, men familiar with them; he hasn't said he did that in the Great Northern.

WITNESS: Well, that same thing applied in respect to all of the lines—that same opinion—opinions from men in each of the counties.

The MASTER: And you had Mr. Staples' assistance, as I recall, in that work?

WITNESS: Yes, and Mr. Staples also assisted.

Q. As I also recall it, in the large cities, such as St. Paul and Minneapolis, you departed from that rule, or, at least, did not follow it, and did not take the opinions of any witnesses of the character you took in the country?

A. No, the value of the terminals in St. Paul and Minneapolis and Duluth is the result of my own judgment based upon the sales of property.

Q. Now, referring to your Ex. C-2, there is a difference in acreage between the figures shown by Mr. Hayden in his exhibit as of June 30, 1908, and in your figures; how is that brought about?

A. I can't say, other than the fact that there is a difference between Mr. Hayden's figures of June 30, 1906, and Mr. Hayden's figures of June 30, 1908.

Q. Well, that doesn't seem to me to quite answer the subject, because it has been plain, and it is plain, from the exhibit,

that there is a period of two years' difference there. There is a difference in your figures of one year between Mr. Hayden's exhibit and yours?

A. Yes.

Q. Now, is it because of additional land, or is it because of land owned by some subsidiary companies, or is it because of a difference of opinion between you and Mr. Hayden as to the correct amount of acreage? that is what I want to get at.

A. Well, I couldn't say as to that. I know that we endeavored, in every way possible, to reach common ground with Mr. Hayden, in respect not only to the acreages—well, mainly, in respect to the acreages. In the report that was submitted to the State, in the first place, there were a great many errors in the computations, and after we had compiled our report I took pains to furnish Mr. Hayden with a complete detailed statement showing just how the subdivision had been made with respect to the lands on each section of the Great Northern.

Q. Now, directing your attention to section 23 on Ex. C-2, Mr. Hayden shows 339.71 acres; you show 296.52 acres. In the report to the Railroad Commission of June 30, 1906, Mr. Hayden showed 281.50 acres; you have no data at hand to indicate why there is that difference between you and him, or between your figures and his figures of June 30, 1908?

A. No I can't state what causes that difference. I would be very glad to have Mr. Hayden come up, however, and we will try and analyze all these details and see just where the differences are and what causes them.

Q. You stated, I think, that most of the difference on the subject of land values between you and Mr. Hayden arises out of the differences in values in the large terminals?

A. Yes.

Q. Have you reduced that to figures in any way so that we could see just what the difference is in the lands, exclusive of the large terminals, and what it is here? That can probably

be done from the exhibits, but I thought perhaps you could make that a little more clear than you have done.

A. I don't thilnk we have that worked out, Mr. Holden, as you ask it, but I can do that.

Q. It isn't necessary, we can probably do it just as well. You testified, I think, that you have deducted from the areas, and also the values, claimed by Mr. Hayden, all lands embraced within the limits of streets or covered by franchises; is that true?

A. Only of the streets that are not vacated.

Q. And in what cities or places was that done—any places outside of Minneapolis St. Paul or Duluth?

A. I don't recall of any.

Q. Was it done in each of those three cities?

A. Well, I can't state definitely, from my knowledge at the present time. It has been some time since I have looked over those details, but I think it comprises lands in both St. Paul and Minneapolis, and I don't think there are any lands excluded in Duluth on account of streets.

Q. Ex. C-3 perhaps, bears on this subject?

A. Yes, it does.

Q. Then, if I understand it, the lands that you show on Ex. C-3 were not allowed in St. Paul and Minneapolis, include all the areas in streets that haven't been vacated?

A. Yes.

Q. Are there any other lands on Ex. C-3 disallowed except the areas in such streets?

A. Only the errors in computations which we found in the Great Northern report.

Q. That is the last portion of the table on Ex. 3, perhaps?

A. Yes.

Q. Have you allowed in your figures, anywhere, any element of value for the tracks and right-of-way, such as it may be, in such streets as are not vacated?

A. We have allowed for the physical characteristics that belong to the Railroad Company occupying the street. We have not allowed any value attaching to your right to use that street, because, upon the theory of reproduction cost, it was assumed that the same privileges would be accorded that the Company now possesses.

Q. By "physical characteristics" you mean you have allowed—

A. The rails, ties and track.

The MASTER: This is simply land value, as I understand?

WITNESS: That is all.

Mr. HOLDEN: Well, I understand he has excluded totally. I was inquiring whether he had given any value for the right, such as the Railroad Company may have; I understand not.

Q. You made no investigation of the term, condition or character of the different franchises which the Railroad Company may have had, and may have now, granting it its right to be in these different streets, and took nothing of that kind into account in your valuation figures for the lands?

A. No, that was not considered at the time that the appraisal was made, it being assumed, being a public street, that while there might have been some expenses attached to it in acquiring that right, it would not be a large one, ought not to be a large one.

The MASTER: Have you anywhere in any of these tables any statement upon the hypothesis that they might be included?

WITNESS: Only in Ex. C-3 I have shown what the reproduction cost of those lands would be, upon the basis of the sales-method, if it is proper that they be allowed. That will be found, your Honor, in the last two columns, at the bottom, for both St. Paul and Minneapolis. If it is proper that these streets be allowed, the total true value of the lands would be $59,090.50, and the right-of-way value would be $102,487.14.

Q. And the same would be true, I take it, of Ex. C-4, relating

to the Minneapolis Union Railway, wherein you have shown certain lands in Hennepin avenue not allowed to that Company?

A. Yes.

Q. And the different valuation, as well as the area of the land?

A. Yes.

Q. In all of these exhibits, Mr. Morgan, you have treated the Minneapolis Union separately from the Great Northern?

A. Yes.

Q. Your figures being brought down only to June 30, 1907?

A. Yes.

Q. And it appearing in other portions of the record, I think, that perhaps since that time the Minneapolis Union has been conveyed to and is now a part of, the Great Northern property?

A. The State's reproduction estimate (that is, Ex. C) shows the subsidiary properties all brought together finally.

Q. On Ex. C-8 you have shown details of a number of purchases made by railroad companies in St. Paul and Minneapolis, and from your testimony it appears that these purchases were all made since 1901, if I recollect?

A. Yes, that is my recollection.

Q. You obtained the prices, as you testified, partly from considerations from deeds, and partly from inquiries from the companies making the purchases?

A. Yes.

Q. Can you tell us what proportion of these figures rest upon considerations taken from deeds, and what upon inquiries made from the companies?

A. Well, all of the Rock Island property was taken from considerations obtained from the companies. The same is true of the Soo; the same is true of the Northern Pacific; the same is true of the Great Northern, and of all of the items appearing for the Northern Pacific in St. Paul. In Minneapolis the record

was taken for the Rock Island from the deeds, and for the Great Northern from the deeds; for the Wisconsin Central from the deeds, and also from some inquiries which I made which positively identify the cost of those lands. The Chicago, Great Western from the deeds. the Chicago, Milwaukee & St. Paul from the deeds; the Omaha from the deeds and from inquiries made of the company; the M. & St. L. from the deeds, and the Soo from the deeds, I think; and the Northern Pacific property from the records of the Company.

Q. In considering these different purchases, did you take into consideration the question of improvements that may have been on the land, or whether they were vacant? That is, the purchase price of the properties, whether they contained improvements, or whether they did not?

A. That was the total consideration.

Q. And some of them were improved and some of them were not?

A. Some were and were not.

Q. And those improved had varying kinds and conditions of improvements, so far as you understand?

A. Yes.

The MASTER: But in your assumptions and comparisons, you have assumed those to be the land values?

WITNESS: That is the land value, your Honor. That is, I have assumed it to be the land value; and the last column there. which is the State's reproduction cost on those same lands, is the land value, but, of course, there were some improvements that were paid for.

The MASTER: Well. it would simply increase the land value, that is all?

WITNESS: It would just increase the land value.

Mr. HOLDEN: Well, it may or may not, as the facts may exist. If there is a valuable improvement on it, it may increase the land value, but if it is a piece of ground that is not improv-

ed, or a swamp, or something of that kind, it throws another light on the subject. I think the deductions may be various that may be drawn; I simply wanted to draw out the fact that the amount shown on the exhibit includes whatever may have gone with the land in the sale.

The MASTER: Well, it is land value, of course.

WITNESS: Yes.

The MASTER: Of course, if it was a swamp, it was paid for as swamp.

WITNESS: If a piece of property is purchased, it isn't separated according to the land and the improvements, ordinarily, but it is purchased at a lump sum for the land and improvements, or for the land itself; and this covers the total price that is paid for the property.

Q. I wish you would turn to your Exhibit C-10 which is your statement comparing the railroad appraisal, item No. 2, on grading, clearing and grubbing; taking section No. 1, you note the fact that the Railway's records or estimate for cubic yards is 4,130,530, and the State's, on the same section, is 3,755,027; the same general situation appears throughout the exhibit, that in most cases there is a difference between the Railroad and the State. I wish you would tell us just how you made up your figures in these different sections, where you got your quantities from.

A. I got my quantities from the final estimates, as far as the final estimates were available, and the difference is due to the fact that the Great Northern Company has arbitrarily added the percentages, which I have not. Now, that accounts for part of the differences.

Q. Wait right there. You say "arbitrarily" not meaning that in any offensive way—

A. No.

Q. —but in the light, perhaps, of Mr. Hogeland's testimony, that he has added a certain percentage for work not on record,

and which from his personal knowledge. perhaps, in some instances, if not in all, he thinks ought properly to be added. I think that is a fair statement of his testimony in that regard, is it not?

A. Well I haven't read his testimony in respect to that. I think that was his intention.

Q. Well, I simply want to get at the fact. Now, whatever the reason may be, in Mr. Hogeland's mind, for making any addition to the quantities shown in the final estimate, you have not added any quantities to those in the final estimate?

A. No, I have not.

Q. Now, then of course Section 1, if I recall it, is right here in St. Paul?

A. Yes.

Q. That is, as I understand it, old construction, running back into early times, comparatively speaking; do I understand that you found a final estimate for 3,755,027 yards?

A. No, sir; I did not.

Q. Then you must have used some other method in sections such as No. 1?

A. That is the estimate that was returned by the Great Northern Company, less the ten per cent that they added to it.

Q. You cut the ten per cent off?

A. Yes, sir.

Q. Now, does that account for the differences in sections 2 and 3? These sections are also in the city, are they not?

A. Yes. Yes, that accounts for the difference.

Recess until 2 o'clock P. M.

AFTERNOON SESSION.

Q. Section 4 is the line from Cedar Lake to Breckenridge. On your Ex. C-10 there appears to be a difference in the quantities of cubic yards of earth between your figures and those of the Railroad Company; can you state the basis upon which that difference arises?

A. The Company had no original estimate for this line, but they made a profile estimate from the original profile, and then added to it the steam-shovel and authority-work from their records. This is one of the lines where there had been extensive changes of line and grade, and in getting my quantities we took the existing profile of the line as a base. That line also has a considerable change of line west of Morris that was included in the Great Northern's estimate, and that being an abandoned line, it was cut out, we did not consider the abandoned line.

The MASTER: Is this the same work that Mr. Hogeland (I think it was) testified concerning, in which he made the claim that, if the road were to be built over again, they would build it just as it was originally built, even if afterwards they would make these changes; that as a preliminary work that would be the best way to do it? You recollect he gave testimony of that kind.

WITNESS: Yes; I think this is one of the lines.

Q. Have you in mind, or any record of, the amount of yardage embraced in that phase of the matter?

A. No, I have not the yardage in mind in respect to that; I think I have a record of it.

Q. Then, if I understand you, you took the present profile of that line and based your estimate upon that?

A. Yes.

Q. And is that the sole basis of your estimate?

A. Yes.

Q. I will not take up all of the items; some of the smaller ones, where the difference is inconsiderable it is perhaps not worth dwelling on, so I will skip section 5. Section 6 is the Hutchinson branch; there appears to be a difference of something under 100,000 yards there; will you explain the reason for that difference?

A. We took the final estimates of quantities on that line, the records of the Company. The difference comes about be-

cause the Great Northern Company added twenty per cent to the estimates.

Q. That explains fully the basis of the difference between you?

A. Yes.

Q. Section 7 is Willmar to Jasper; there is a difference there of a considerable quantity. How does that come about?

A. We took the final estimate on that line, and then added the improvements that had been made, but cut out the percentage which the Great Northern had included in addition to the improvements for which they had records.

The MASTER: That percentage that you refer to, as I recall, was a percentage that the engineer added after the work was constructed, for sags, and for the purpose of bringing the road up to grade, etc., was it not?

WITNESS: Yes, that is what it was for, supposedly, but, of course, they had the authority work on record which covered those items.

The MASTER: As I understand, you claim, then, as to this item, that they added the authority work to the original contract proper, and then added the per cent besides?

WITNESS: Yes. That was not done in all cases.

The MASTER: No, I am referring to this particular item.

WITNESS: Yes.

Q. Well, then, it necessarily follows, if I understand you, Mr. Morgan, that it is your claim that the quantities shown in the final estimate, plus the quantities for which there are authorities, include all of the work or all of the quantities of earth on that section?

A. Yes, of course, if it is proper to allow the item of adaptation and solidification of road, which I have included in my estimate, then that would amply cover, and very much more than cover, any additional yardage that might go in, of which they have no record.

Q. Your idea, then, would be, that your item of adaptation and solidification might properly cover additional yardage added to the grade, of which, perhaps, there would be no record?

A. Yes, in any totals.

Q. Well, if there was no record of any such yardage, how could it be ascertained that there was any such and that it might be taken account of in your item for adaptation and solidification?

A. It can't be taken from records because it isn't there; but I find that the records of the Great Northern Company are very complete, and cover, apparently, all of the work that has been done, because their records are very minute and very much in detail, and it doesn't seem probable that any yardage of any considerable amount would escape without going into the records.

Q. Sections 8, 9, 10 and 11 present minor differences, but I would be glad if you would briefly give the basis upon which those differences exist; 8 seems to be characterized as "old Soo City & Northern"?

A. Yes.

Q. Where is that?

A. Down in the southwest corner of the state. That difference is due to a profile estimate, in which the Great Northern Company added ten per cent for bank-widening, which we have not included in our estimate. On section 9 we had the final estimate of the Company, to which the Great Northern Company added ten per cent and the authorities. In some cases—take, for example, this section 9, they add ten per cent to the original quantities to cover subsequent work; then they went through their records and found 51,060 yards that was in the nature of "authorities" for work done; then they subtracted the 51,060 yards from the ten per cent of the total estimate, and it left an arbitrary of 23 577 yards on that line; so that we have cut that out. On section 10—

Q. Section 9 is Benson to Nassau, and section 10 is Morris to Brown's Valley?

A. Yes.

Q. A difference of approximately 20,000 yards on section 10?

A. Well, that is due to cutting out the arbitrary, which amounts to 20,993 yards.

The MASTER: Mr. Hogeland added the per cent as arbitrary; that was what he called the "constant," I believe, was it not?

WITNESS: No, that is not the constant.

The MASTER: Well, an arbitrary for leveling up the road and work that had to be done after the contractor was through with it; this was cut out, as I understand this witness, and in its place was added whatever was authorized to be done, that is, what he called "authority"; am I right in that?

WITNESS: That is correct.

Mr. HOLDEN: I am not prepared to subscribe to that; that is Mr. Morgan's understanding of it.

The MASTER: No, I understand; I am not committing you to it, I just want to understand Mr. Morgan's position.

WITNESS: Yes, that is my understanding of it.

Mr. O'BRIEN: I don't understand the matter exactly that way, either, your Honor. What I understand is that Mr. Hogeland had first the final estimates; then, in addition to that, he had quantities which the records showed. In other words, he had the total quantity which the record shows he had; then, in addition to that total quantity (which was more than the original final estimate) ten per cent was added for work of which there was no record.

The MASTER: That was sometimes done, as I understand?

WITNESS: Yes.

The MASTER: But not always?

WITNESS: Sometimes, but not always.

The MASTER: Yes, I understood there was that modification or further explanation to be made.

Q. Section 11 is from Yarmouth Junction to west of Childs, a difference of 20,000 yards there; does that rest on the same basis?

A. Yes; there was 20 per cent added there that was not specified.

Q. Section 12 is the Northtown Junction to Sauk Rapids; your quantities are the same there?

A. Yes.

Q. How does that come about?

A. Well, I took the quantities out of the estimate that was made by the Great Northern for joint running rights with the Northern Pacific.

Q. Well, that is the line that has been referred to which is now operated practically as a double-track?

A. Yes.

Q. 13 is Elk River to Milaca, a difference of about 40,000 yards there?

A. Yes. Well, we had the final estimate on that and the authorities, and the Great Northern Company added 20 per cent to the final estimate, and it left an arbitrary of 40 094 cubic yards.

Q. And that arbitrary you disallowed?

A. Yes, sir.

Q. Section 14, East St. Cloud to Brook Park, a difference of about 400,000 yards; how about that?

A. The Company didn't have the number of cubic yards of grading on that line, which was done under force-account, but they had the total charges to grading, and basing that on 25 cents per cubic yard, plus 225,000 yards of steam-shovel work and 370,000 yards of authority work, we get a total of 1,843,250 yards. The Great Northern arbitrarily added 20 per cent to the original yardage on that section, and, over and above the authorities, they have 45 458 cubic yards.

Q. You disallowed over and above all that?

A. Yes.

Q. And allowed in this, as in other cases, nothing at all on account of what, as you understand it, was covered by the percentage of addition?

A. That is true.

Q. Section 15, Clearwater Junction to St. Cloud, you and the railroad agree?

A. Yes, sir.

Q. You took the Railroad's figures, did you?

A. Yes, we had the final estimates on that, and we used the Railroad Company's figures.

Q. Section 16, St. Cloud to Willmar, there was a small difference there?

A. Yes. Well, there is 88,000 yards of arbitrary there that was not allowed.

Q. But section 17, East St. Cloud to Barnesville, a difference of a little over 400,000 yards; how does that arise?

A. Well, there was a change of line up there that was not deducted from the original estimate, and there is an arbitrary of 479,630 yards. The Great Northern arbitrarily added 20 per cent, which was not allowed, so that 479,630 yards is not allowed.

Q. But the line-change you seem to have allowed?

A. No.

Q. Well, now, do I understand you that there are 479,000 yards in their line-change?

A. The 479,000 yards covered the line-change.

Q. Well, that you disallowed and also the balance of the additional percentage?

A. Yes.

Q. And that is about the difference between you, as I read these figures.

A. Yes.

Q. Section 18, Sauk Center to Park Rapids, shows a difference of about 130,000 yards?

A. Yes. Well, that 130,291 yards was an arbitrary amount based on percentage of the total.

Q. And was wholly disallowed by you?

A. Well, yes, it was wholly disallowed, and that is the line upon which they found authorities for minor work done, amounting to 129,000 yards, but they were both added in, both the full percentage and the authorities.

Q. Section 19: is what you have said substantially true of that?

A. Yes.

Q. Park Rapids to Cass Lake?

A. Yes.

Q. Section 20, Evansville to Tintah?

A. The same.

Q. 21, you have the same figure?

A. Yes, for 21 we have the same figure. That was a profile estimate, which we checked, and it came out at practically the same quantity, so we used the Railroad Company's figures.

Q. 22 and 23, how about those?

A. Well, there was an arbitrary in there of 21,317 yards in section 22.

Q. In section 23 the same?

A. No, in 23 the Great Northern Company made a profile estimate for the quantities, and I also made a profile estimate. The difference is due to the difference in the two estimates, but only amounts to a small yardage.

Q. On 24 your figures agree. That is the line from Barnesville to St. Vincent?

A. Yes.

Q. 25, there is a difference again; that is the line from Moorhead to Redlands?

A. Yes.

Q. How did that arise?

A. Well, Moorhead to Carmen Junction (that is Redlands)

there is an arbitrary in there of 61,548 yards.

Q. And that was entirely disallowed?

A. Yes, sir.

Q. And 26, Crookston to East Grand Forks, is that true of that, also?

A. No, the Great Northern Company made a profile estimate on that, and so did I. The difference is due to the two estimates.

Q. Now, without taking up all the remainder of the items, will you look over your notes and see if there are any others of importance that present any different basis than those already referred to?

A. No, I do not think that they are on any different basis. The Great Northern Company, in the first place, furnished its estimate of quantities, and then when I began my investigations down at the Great Northern to look into the matter, they filed a supplemental statement in which the quantities were revised on certain of these sections, and I have, of course, used the revised figures, which showed the authorities, and in that way the quantities they first turned in are different from the quantities they turned in the second time. Now, then, there may still be some differences in the quantity that they turned in in Ex. 2 for June 30, 1908, which, of course, I have not included in my estimate of June 30, 1907, because they may have done some work and it may account for some differences in the number of cubic yards of earth between 1907 and 1908 due to work done in 1907 after June 30, 1907; I don't know what they have added.

The MASTER: Well, do I understand here that the Railroad's statement is of June 30, 1908?

WITNESS: Yes.

The MASTER: Your statement is of June 30, 1907?

WITNESS: Yes.

The MASTER: And whatever, if any, work was done during

last year would not appear on your exhibit?

WITNESS: That is true.

The MASTER: But would probably appear on theirs?

WITNESS: Yes.

Q. Is there anything in those exhibits to show the quantities claimed by the Railroad or allowed by you, for either the Minneapolis Union or the Minneapolis Western?

A. I think not, on these exhibits. I am pretty sure, however, that there was no change in the yardage; the change is in the unit prices.

Q. You mean that you agreed with the Railroad as to quantities?

A. Yes; that is my recollection, as near as I can recall. It was a very difficult matter to get at the quantities in the terminals here, because the whole topography of the country has been changed, and there was no way that they could be analyzed, and, therefore, in most cases, the figures of the railroad companies were accepted.

Q. Can you tell us, in general terms, if it is possible, the basis upon which you differ with the Railroad Company on the quantities of loose and solid rock, as shown on your Ex. C-10?

A. Well, that difference is due, in a general way to the fact that the Great Northern Company has added percentages to the original quantities, and they have been eliminated in my estimate.

Q. That accounts for the difference between you?

A. Yes.

Q. On both kinds of rock?

A. Yes.

Q. And what can you say as to the differences between you in the acres of clearing and grubbing?

A. Well,—

Q. Your figures in many cases seem to agree, but in other cases, as for instance, section 12, (which is Northtown Junction

to Sauk Rapids) you allow 50 acres, and the Railroad Company claims 225 acres.

A. Yes. Well, I think my estimate in respect to clearing and grubbing is more than liberal for the present time. The number of acres put in there by the Great Northern constitutes the acreage that appears, in most cases, on the final estimates. When these lines were built, in the first place, it was through timbered country that has since been developed into a prairie, and you would not encounter the timber, either in extent or in size, that was encountered in the first place, in the construction of these lines, and we have accepted those figures rather than undertake to make a detailed analysis of the conditions as they would be found on all of the lines.

Q. Well, taking your section 12, how did you arrive at 50 acres?

A. Well, that is my estimate as to the number of acres of clearing and grubbing that ought to be between Northtown Junction and St. Cloud. The estimate of Mr. Hogeland, prepared for joint running rights with the Northern Pacific, on that section, shows $1,675 for the clearing and grubbing. I have allowed, for the same line, $3,750, and the Railroad Company is claiming, in Ex. 2, $25,290.

Q. My question was how you arrived at the 50 acres. As I understand it, that is simply your estimate of the amount of acreage that there ought to be?

A. Yes, the number of acres of clearing and grubbing, according to my judgment, that would be required at the present time to reproduce that line

The MASTER: How did you determine that?

WITNESS: In passing over the line making the examination of the railroad, it is possible to get a very good idea of the amount of clearing and grubbing; and, of course, in a prairie country, it doesn't come into question, and in a timbered country it does. And I considered it on the basis of the total num-

ber of acres of right-of-way that they own and the proportionate amount of it that would be required to be cleared, according to the conditions.

The MASTER: Did you understand Mr. Hogeland had determined it in the same way?

WITNESS: Mr. Hogeland has determined it, as I understand, from taking the original estimates when the lines were first built, and when this was a timbered country, which has since been transformed into a prairie country.

Q. And by "in passing over the line" you mean in passing over it on the train that you had when you went out over the lines?

A. Yes.

Q. In motion?

A. Yes.

Q. Item 3 on Ex. C-Morgan covers protection work, riprap and retaining walls?

A. Yes.

Q. In Hogeland's Ex. 2 he claims $730,006, and your allowance is $522,498.25; upon what basis does that difference rest?

A. I think that basis rests principally upon the unit price that was used for the riprap and retaining walls.

Q. You had in mind no difference in the quantities?

A. Well, it may be that the Great Northern in its exhibit for June 30, 1908, has added some riprap and retaining walls.

Q. You mean had some work done since your figures were compiled?

A. Yes, sir.

Q. At this time you have at hand no definite details or statement which would clearly show on what that difference rests?

A. No, I have not.

Q. Now, on the subject of ties, item 5, in Ex. C,—is there any substantial difference between you on the number of ties?

A. No, I think not.

Q. The difference is on the prices?

A. The difference is on the prices. The total number of ties, according to my estimate, is more than returned by the Great Northern.

Q. It is about 5,000 more ties, isn't it?

A. Yes.

Q. Turning to your Ex. C-11, the last two columns are a comparison of your figures and those in Hogeland's Ex. No. 2?

A. Yes.

Q. I wish you would state just what is included in your price, for instance, of oak ties, which you show at 70 cents; how is that figure made up?

A. That is the cost of the oak ties at St. Paul or Duluth, or on the ground at any place in Minnesota where the oak tie is produced. There were a number of oak ties produced lying to the north and northeast of St. Paul and Minneapolis, up in the vicinity of Milaca, and the price that I have used for oak ties is the price at St. Paul and Minneapolis, or where it is produced in Minnesota.

Q. Well, taking St. Paul, for instance, you mean by that, an oak tie purchased outside of the state, in the South somewhere, or south of St. Paul, where oak ties are to be purchased, and the freight rate added to St. Paul?

A. The tie should be laid down in St. Paul or Minneapolis; the oak tie should be laid down in St. Paul or Minneapolis for 75 cents.

Q. Now, does that figure of 70 cents include anything except the cost of the tie at the point of purchase, plus the freight rate to St. Paul?

A. It covers whatever is necessary to put the tie in condition for use. The transportation charges are afterwards added.

Q. Well, what do you mean by "whatever is necessary"? I wish you would explain that.

A. Well, it takes the peeling of the tie, its loading and trans-

portation to St. Paul or Minneapolis.

The MASTER: Is that peeling usually done before they are transported?

WITNESS: Yes, it is as a rule; sometimes it is not.

Q. And by that you mean, then, if I state it fairly, the total cost to the Railroad Company, per tie, brought here to St. Paul?

A. Ready to put it in the track.

Q. Ready to put in the track?

A. Yes.

Q. And that is true of your unit prices of the other kinds of ties, is it?

A. Yes. Now, in connection with that question of the price of ties, I should like to explain this: that the railroad companies have specifications for ties, and ties are purchased on those specifications at the prices at which they may be bought, but there is always a certain percentage of ties that are produced that are below the specifications, and the railroad company, while it will not pay the full price of a No. 1 tie for these smaller pole-ties, that are below the specifications, they do buy them and they buy a good many of them, and they buy them at very cheap rates. Now, then, all of the oak ties are included at 70 cents in my estimate, irrespective of the fact that a good many of those ties can be brought here for very much less than that because the original cost of these small ties is very much less than that which will pass the specifications.

The MASTER: Your 70 cents contemplates the tie up to specification?

WITNESS: Yes, it contemplates that every tie that is used is up to the specification, although it is not a fact that they are.

Q. And what you have said about cross-ties and the basis upon which you arrived at the price, is substantially true as to switch-ties, is it?

A. Yes.

Q. On your Ex. C-12, where you have compared unit prices, I don't quite understand, taking, as an illustration, the range of prices from the report to the Railroad Commission for 1907. You show there for oak ties a price of 52.3 cents, and under the fifth column of prices a price for "Others" of 71.8 cents?

A. Yes. Well, I can't account for that.

Q. What do you understand is embraced in the word "others"?

A. It is pretty hard to say what is embraced in that. That statement is prepared just as taken from the sworn reports of the Great Northern Company, and no analysis has been made other than to present the figures as they have sworn to them.

Q. Well, you have no comment to make upon that column under the word "Others" as you have not analyzed it?

A. Not at the present time.

Q. Now, then, the heading of this table of Great Northern prices, "Price per Tie at Distributing Point," what do you understand that means?

A. That means the tie at point of loading.

Q. Well, taking oak ties now, what do you mean, what point?

A. Well, it might mean the point of loading in Minnesota, or outside of Minnesota, in Wisconsin.

Q. Or, if it were purchased at St. Louis, the oak tie, do you mean then that that was the price of the tie at St. Louis?

A. Yes.

Q. Where do you understand that places the tie? is it on the ground at St. Louis, in the yard, or is it peeled and loaded on the car ready to be moved?

A. That is probably the contract price of the tie.

Q. Well, what do you understand that covers?

A. That contract might cover the peeling, and it might not; it would be difficult—you would have to analyze the contracts individually to see.

Q. And it might or might not cover the cost of loading on to the car?

A. Yes, sir.

Q. Or the cost of getting from the yard to the car, if there was any transfer involved or handling in that connection?

A. That might be true.

Q. And how about inspection? That is customarily done, is it not, by railroad companies before they take delivery of ties?

A. Yes.

Q. Would that price cover the cost of inspection?

A. It might not.

Q. And then again, it might, so far as your information is concerned?

A. It might, yes.

Q. So this point you are not clear upon, in relation to these prices reported by the Great Northern Company for the years shown on this exhibit?

A. Those are just the statement of the prices as returned in the sworn reports of the Great Northern Company to the Railroad & Warehouse Commission.

Q. But down farther on the exhibit, you have put in, as a basis of comparison, the cost of reproduction as shown in Hogeland's Ex. No. 2, taking oak ties where he shows 85 cents?

A. Yes.

Q. You would not say that the price shown for 1907, which I have been above referring to of 52.3 cents, would be properly comparable with the 85-cent price, without a full statement of all of the elements of expense entering into each price, would you?

A. It would probably not be, without a detailed analysis of all of those items. The purpose of showing the 85 cents there, is to illustrate the difference between the price of ties at the distributing point and what the Great Northern has put them in at at the distributing point, because you understand that the

85 cents has got to receive yet the freight charges, the same as the other tie.

Q. Well, I won't attempt to quote Mr. Hogeland's testimony on that, but I simply want to make clear what you have taken into consideration.

A. So that the price of the tie would rise relatively in each case.

Q. That is your understanding?

A. That is my understanding.

Q. Now, then, you have also shown a basis of prices from the United States Department of Agriculture, forest service circular 124, which circular shows an average price of different kinds of ties all over the United States.

A. Yes.

Q. And oak ties there appear at 51 cents?

A. Yes.

Q. That is the average of the price all over the country?

A. Yes.

Q. What do you understand is included in that figure?

A. That is the purchase price of the tie at the distributing point.

Q. And whatever the fact is about that, your information rests wholly on the statements in that circular, I assume?

A. Yes.

Q. Is there anything in the exhibits to show the difference in quantities between you and Mr. Hogeland on the subject of ballast?

A. No, I think not.

Q. The difference in price is shown on your Ex. C, about a million dollars?

A. Yes.

Q. Can you tell us how much of that difference rests in a difference in price and how much in a difference in quantity?

A. I can't at this time. I think there is quite a little differ-

ence in the quantities, and there is a very considerable difference in the price.

Q. Well, can you tell us how you proceeded to arrive at the quantities of ballast that you figure?

A. The quantities of ballast were estimated from the report, in detail, of the Great Northern Company. On each of the sections, the Great Northern Company reported the depth of its ballast under the tie and the width of the ballast at crown, and upon that information the cubic yards of ballast for each of the sections was determined.

The MASTER: Reported to you?

WITNESS: It was reported to me in the detailed returns of the Great Northern Company.

Q. Just what report do you mean?

A. I mean the report as of June 30, 1906, that was submitted.

Q. You mean by that the report to the Railroad & Warehouse Commission?

A. Yes.

Mr. O'BRIEN: A special report.

Q. Well, I am still uncertain; was there a special report on ballast different from the general report to the Railroad Commission of 1906?

A. No, the details were contained in the general reproduction estimate that they submitted to the State for June 30, 1906.

Q. By the report that you have referred to, you mean the report made by the Great Northern, in common with all other companies, to you as the state engineer, upon the blanks furnished by you, and which was dated as of June 30, 1906, covering all of the physical items of their property?

A. That is correct.

Q. And in that report the Great Northern showed, for each of the forty-six sections, the quantities of ballast claimed for each section?

A. Yes.

Q. You say they reported the depth of the ballast under the track?

A. Under the tie.

Q. That would necessarily be, would it not, the average for the whole section?

A. Yes, the average depth of the ballast under the tie.

Q. And from that report you computed the quantities of ballast upon which your Ex. C-Morgan is based, so far as ballast is concerned?

A. The depth and the width of ballast, yes, except this: that, in making my examination of the Great Northern properties, I took my own notes with respect to ballast. Now, for example, the line from Thief River Falls to Greenbush, the details of Mr. Hogeland's Ex. No. 2 do not show any ballast on that line, but I have given that line 15 miles of ballast. It was gravel cast in from the side, and therefore I have allowed the Great Northern ballasting on that line, although they are claiming none.

Q. On the subject of rails, there appears to be some difference. There is no dispute, is there, between you, as to the quantities, of any importance?

A. I think very little. I think the number of tons per mile runs very close together, and it is pretty much all made up on the matter of price. The Great Northern's price is higher than mine. Of course, they have used full transportation rates, whereas, I have used a construction rate.

Q. Your Ex. C-13 shows that Hogeland's Ex. 2 is based upon a unit price per ton of $30.75?

A. Yes.

Q. And yours is $29.75?

A. Yes.

Q. In your testimony you said something to the effect that $29.75 is the standard price, plus transportation charges, which has been in effect for some time past?

A. Yes; $25 a ton has been the price of rail at Chicago for some years; and I have added to that the freight charges on getting the rail to St. Paul.

Q. Now, that is what I wanted to ascertain. You have based all of your rails on the price at Chicago, plus freight at tariff rates, to St. Paul, Minneapolis or Duluth?

A. Yes.

Q. You have not taken into consideration the price of rails at any other point than Chicago?

A. Well, Chicago is one of the great rail markets of this country.

Q. I remember in your testimony in the Northern Pacific case you dwelt on that and it is germane to this case, but I simply wanted to ascertain the fact that your assumption is that the rails would all be purchased on the Chicago price, is it not?

A. Yes, that the rails would be purchased in Chicago.

Q. Now, have you in your $29.75 included any item for handling or inspection of rails?

A. That item of handling and inspection of rails is covered in this way: that, in the purchase of rails for the construction of a railroad, there is always a certain percentage of the rails that are classed as No. 2 rails; that is, they are not perfect, and they are purchased for a considerably less price than a No. 1 rail. Now, all of the rail that I have allowed, in the reproduction of the Great Northern, is No. 1 rail, whereas, as a matter of fact, there is considerable No. 2 rail that is bought; therefore, the inspection and loading charges are taken care of by allowing full price of $29.75 for all of the rails that they own.

Q. That is your reason for not including any additional amount for inspection or handling?

A. Yes.

Q. You have given us, on details as to items 8, 9 and 10, track-fastenings, switches, etc., and track-laying and surfacing. Does the difference between you on track-fastenings rest on the

unit prices, or is it because of any difference in quantity?

A. I think it is principally upon the unit prices.

Q. That is probably true of switches and frogs and crossings, is it not?

A. Yes, we are very close on that. There is only a difference of several thousand dollars.

Q. Track-laying and surfacing, there is a considerable difference between you; how does that arise?

A. Well, that arises on the price which the Great Northern Company has used for track-laying and surfacing. They have used a price for track-laying and surfacing such as is shown on their Ex. No. 2, item 10, at $835 per mile, plus $25 for each switch.

Q. What figure have you used per mile?

A. I have used an average figure, for track-laying and construction-surfacing, of $507 per mile on the Great Northern. The price that I have used is generally $500 a mile, but there were some sections (the terminal sections) where I used a price of $600 per mile to take care of the extra switches that had to go in; so that the average price for the Great Northern is about $507 a mile.

Q. Now, that $507 figure includes what?

A. That includes everything that goes into the cost of track-laying and construction-surfacing.

Q. Mr. Hogeland's Ex. No. 7 shows actual cost of track-laying and surfacing, for a period of ten years, on various parts of the System, and is subdivided into train service, labor, handling material and laying track, surfacing track, repairs of equipment and transportation. Do you include all of those classes of expense in your figure?

A. Yes, with the exception of the transportation, and I have an item in mind which is not included in this, and that is the depreciation on equipment.

Q. Well, Mr. Hogeland's exhibit, at the foot, notes the fact

that that is not included in his and might properly be included.

A. Yes.

Q. But you have included all of the subdivisions of expense shown in his exhibit?

A. Yes.

Q. Which he has taken into account?

A. Yes. Of course, one of the important differences is due to a surfacing of track, which I analyzed this morning. Take the line from Hibbing to Virginia, where $22,219.64 is charged to surfacing track which properly belongs under ballasting, I have not attempted to prepare an estimate that carries with it any expense which is attached to ballasting, and that is an expense which is attached to ballasting, because the construction records, so far as ballasting is concerned, do not show a dollar charged to putting the ballast under the track, but that is all shown under the captions of Filling Line or Surfacing Track, which the Great Northern Company has added to the track-laying, and in that way produces the figures shown there of $1,638.

Q. And your analysis of the record on that line leads you to the opinion that there was an error in charging the $22,219.64 to surfacing?

A. Well, I am not particular which—

Q. I don't care whether you are particular or not.

A. —which way it comes; you have either got to reduce your track-laying and surfacing or ballasting. I think it properly belongs under ballasting.

Q. That is exactly the question I asked you, and in your opinion, then, the record of the Company is wrong in charging it to surfacing?

A. Yes, I think so.

The MASTER: Is it charged to ballasting as well?

WITNESS: Well, your Honor, they didn't show the ballasting on that line in their exhibits.

Q. Well, you don't, for a moment, claim this is charged twice, Mr. Morgan?

A. Certainly not.

Q. Well, that is the purport of the question the Master was asking, whether it was also charged to ballasting and your answer, where you say that it was not shown in the ballasting, means that, in Hogeland's Ex. 6, which only shows ballasting from 1901 to 1908, he didn't go back to 1899 and show ballasting done during that year?

A. That is right.

Q. But the exhibit only purports to show ballasting from 1901 to 1908, as I read it. Now, on item 11, Bridges, Trestles and Culverts, the difference between you, I assume, is in the price; is it not? There is no great room for difference in the number of bridges or trestles, is there?

A. There is some little difference in respect to the number of bridges, that is, the number of lineal feet of pile bridges; I think there is some difference there. The main difference, however, is with respect to the unit prices that have been applied. Now, in support of the figures that I have produced in respect to bridges, trestles and culverts, on the Great Northern line, I would like to call the Court's attention to the report of the Chicago, St. Paul, Minneapolis & Omaha, the Chicago & Northwestern, the Chicago, Milwaukee & St. Paul, the Minneapolis, St. Paul & Sault Ste. Marie, the Chicago Great Western, the Duluth & Iron Range, the Duluth, Missabe & Northern, and the Chicago, Rock Island & Pacific. The sum total—

Mr. HOLDEN: Now, just a minute. I want to object to that; I dont' think it is proper cross-examination. If you have anything to add to your direct testimony, in support of your figures, it would be more proper to put it in in rebuttal, or in some other way. I am simply inquiring of you of the basis upon which these figures are made, for the purpose, as I announced at the outset, of facilitating our investigation and

preparation for further testimony and cross-examination. While perhaps the Master may not rule on this subject, I would suggest that this adventure into foreign fields, at this time, is not quite proper.

The MASTER: It isn't, is it, Mr. O'Brien?

Mr. O'BRIEN: Well, I suppose it is a matter that we ought, properly, to draw out in re-direct examination.

The MASTER: It would not be proper cross-examination.

Mr. O'BRIEN: I suggest, though, that it might save re-direct examination if you let Mr. Morgan finish this answer.

Q. What is the difference between you on water stations, item 15? I mean by that how does it come about.

A. I think that comes about in respect to the unit prices that have been applied.

Q. You are about together on coal-stations?

A. Yes.

Q. And on station buildings, you are somewhat below him, but not very much; that is a question of unit prices, is it, or price, however arrived at?

A. Yes, that would be a question of unit price; although I think, if you will refer to the report for June 30, 1906, shown on Ex. C, that our figures are just about the same; so that, for June 30, 1908, the Great Northern must include some improvements.

Q. Miscellaneous buildings item 18, the same would be true as to that item, I take it?

A. Yes.

Q. And steam and electric power plants; that is true there, is it?

A. Yes.

Q. At this time, I don't think of any reason to inquire of any of the remaining items in that first subdivision, down to and including item 28. Will you state, again, the basis upon which you compute item 29, adaptation and solidification of roadbed?

A. That is upon the basis of a labor charge, covering a four-year period for main lines, on the basis of one man per mile for the number of working days in four years; and, on branch lines, a half man per mile on the number of working days.

Q. What work do you intend or suppose this man would do during this period of time?

A. Well, I think that is explained as fully as I can explain it in the report that I have submitted to the Commission on that subject, if you want me to read that into the record.

Q. No, I don't care to have that done, but at the moment I had forgotten that you had covered that; but in your printed report, which is entitled "Supplement to the annual report of the Railroad & Warehouse Commission for the year ending November 30, 1908," you have fully explained your views on that subject?

A. Yes.

Q. Item 30, engineering, superintendence, legal expenses, what is your basis there?

A. 4½ per cent on all of the items, 1 to 29, inclusive.

Q. Do you subdivide that percentage in any way between the different kinds of expense embraced in the caption?

A. No, that cannot be done. It is purely an arbitrary allowance, and it cannot be divided and assigned to the individual items.

Q. No, I don't mean the individual items, I mean the caption of this item engineering, superintendence and legal expenses. Now, would you apportion any of that percentage of 4½ to any of those three classes of expenses?

A. Well, I have not attempted to do that.

Q. Now, item 31, locomotives, is there any difference between you on the number of locomotives on the system?

A. The report, as prepared under my direction, covers the number of locomotives that operate either wholly or partly in Minnesota, and Great Northern Ex. 2, is based, I think, upon

the total number of locomotives on the System and apportioned to Minnesota on the relative mileage basis. There would necessarily be a difference in the number of engines and in the value of the engines.

Q. Well, you mean there is a difference between you and Mr. Hogeland as to the number of engines properly apportionable to the state of Minnesota?

A. Yes.

Q. What was the purpose of your Ex. C-14, showing five locomotives, apparently, reported twice, either in whole or in part, in the report of the Railroad Company to you of June 30, 1906?

A. The purpose of that is to show that, in that report, locomotives were reported more than once.

Q. Well, now, you have very frequently stated, Mr. Morgan, that you often called attention of the railroad companies to any errors in the quantities or computations made in their reports to you; how does it come you didn't call attention to those five locomotives? Have you any special object in displaying this exhibit now?

A. None at all.

Q. Why didn't you call attention to this error if it is an error?

A. I will say this, that from the beginning, I tried my very best to get the co-operation of the Great Northern Company, and it was almost useless for me to attempt to do it, up to within a very recent time. It was impossible for me to get any information except by the most strenuous efforts.

Q. That is the reason why you have gone to the pains of showing an error made in the report of June 30, 1906, which you do not claim exists in Hogeland's Ex. 2, is it not?

A. If you will observe, my Ex. C shows, not only the report for 1908, but it shows the report for 1906.

Q. I have observed that.

A. And it also shows my report, and that is the difference between the report for 1906 and 1908.

Q. Well, do I understand you, then, that because of this supposed difficulty you had with the Great Northern Road, you called their attention to no mistakes, omissions or errors in any of their figures?

A. No, I don't think that is so. I think that, so far as it was possible to co-operate with them, that spirit was displayed by me, and every effort was made to try and harmonize, as far as it was possible to do so.

Q. Well, then, please answer my question. As to other matters you did consult with them and call attention to errors and mistakes, did you not?

A. On a great many things, yes.

Q. You went out over the Great Northern road, just as you did over the other roads, did you not?

A. Yes.

Q. You have had access to their records, upon demand, have you not?

A. Yes.

Q. There are no records in the hands of the Company that you have asked for that have not been shown you; isn't that true?

A. That is true, after most persistent efforts in some directions.

Q. Well, you are not prepared to say that the delay that may have existed at times is altogether chargeable to the employes of the Railroad Company and not at all chargeable to you, are you?

A. Well, I have been down there a number of times to try and get access to the records without success.

Q. And the method you adopted in each instance, I suppose, was a method which, on further consideration, you are satisfied was the proper one to have adopted?

A. I did the best I could.

Q. Well, that is a matter of very little importance in the case, and I won't dwell upon that any further, but I can't quite understand, Mr. Morgan, why after your very full statement of your effort to reconcile your differences in all these railroads —and that, I understand, has been your experience in the Great Northern, because you have called their attention to numerous differences wherever they may have existed, you have consulted with them and accepted their quantities after examining them in many cases,—you should go to the extent of filling this record up with this or putting into this record (this Ex. C-14) showing a difference of, as I read it, $34,000—

A. Yes.

Q. —an error, palpably, in a report which has not been offered in evidence in this case and which you do not claim is in the report that has been offered in this case.

A. You understand, Mr. Holden, that my estimate is based, in the first place, upon the report of June 30, 1906, and brought forward to 1907; that is the reason that that is shown.

Q. Well, if I understand you, you don't claim that there is any duplication of locomotives in Hogeland's Ex. No. 2?

A. I do not.

Q. Now, you spoke about something in relation to the method of the distribution of the locomotives between Minnesota and other states; the basis adopted in the report of June 30, 1906, was that not upon the basis asked for by you in your instructions or interviews with the companies?

A. Yes.

Q. And the basis used in Hogeland's Ex. No. 2 is the basis Mr. Hogeland adopted as being the proper basis, according to his opinion?

A. Yes.

Q. So when you comment upon the different bases adopted in these two reports, it follows entirely from the fact that you and Mr. Hogeland disagree as to the proper way of apportioning

locomotives to the state of Minnesota? He made his report of June 30, 1906, upon your basis, and his Ex. No. 2 upon his basis?

A. That is true.

Q. And he didn't adopt the basis of June 30, 1906, as his own, as you understand it?

A. That is correct.

Q. Now, what consideration, in apportioning locomotives, have you given, or did you give, in your report which is of June 30, 1907, to locomotives laid up, either for want of business or in the repair shops, out of service and undergoing repairs?

A. The apportionment of locomotives for 1907 is made up just exactly as Mr. Hogeland himself made it up, apportioned to Minnesota. We asked Mr. Hogeland for a special report for June 30, 1907, and that has been taken as the basis for our report.

Q. Well, that doesn't clear my own mind on the subject, but I will ask it in this way: In your basis of apportionment, have you taken into consideration locomotives standing idle in the state of Minnesota, out of service, but owned by the Company and standing idle for lack of business to use them in?

A. No, I think not. At the time that report was made, the Great Northern Company had a number of new engines which had been purchased and which had never been in service on the line, and they were stored out here in the yards of the Great Northern Company. Now, where those engines would be assigned it would be difficult to say. They never had been in service, and there was no immediate demand for them; they might all remain in Minnesota, or they might all go out of the state. And those engines, inasmuch as they had not been in service, never had been used, were not taken into account.

Q. They were not taken into account in your apportionment?

A. No.

Q. You spoke about there being a large number of very heavy

locomotives on the mountain divisions; did you go any further into that question to determine how the locomotives that were actually in use in Minnesota compared in weight to the average in other states?

A. No, I did not.

Q. You know, as a matter of fact, that in the state of North Dakota, the Great Northern Road has a great deal of branch line mileage, do you not?

A. Yes, they have a good deal of branch line mileage.

Q. And did you inquire or ascertain the weight of locomotives assigned to those branch lines?

A. No.

Q. I can't recall in my own mind, Mr. Morgan, just what application you made of the heavy engines in the mountain districts in your testimony yesterday, and I wish you would recite that.

A. Well, I merely stated that, as a general rule, the transcontinental lines use very heavy engines through the mountain districts. A great many of them have—

Mr. HOW: How many? How many Mallet compounds are there?

WITNESS: I didn't state how many they had; they have a number, as I recall.

Q. What I mean is, what bearing does that have on the proper apportionment of locomotives to Minnesota?

A. Well, it has this bearing: I think that if we can take into account the locomotives that are actually running in the state of Minnesota, we get a better index of value than we do to take into account engines which are in use outside of the state of Minnesota, whether they be light or heavy, because when we take the engines that are used in Minnesota, those are the engines that we have got to reproduce, and, therefore, we get the figures from the very engines that we want.

The MASTER: That is making use of the larger engines which

are not used in the state increases the valuation of the locomotives, is that the idea?

WITNESS: Well, that might be true, your Honor, and it also might be true with respect to the engine mileage; that might cut considerable figure. The relative engine mileage in Minnesota, as compared with the entire System, would make, in itself, a very great difference, irrespective of the fact of whether the engines were heavy or whether they were light, costly or cheap.

Q. You didn't ascertain how many of these so-called heavy Mallet engines the Great Northern had?

A. No.

Q. And you didn't ascertain, whether, as a counter-balance to that, there may be a greater percentage in some other states of light engines, on branch-line service, which might offset your heavy engines in the mountain districts, in your consideration of that subject? And you also didn't consider whether the locomotives in actual use here in Minnesota, on the average, were not heavier than the average of other states in the System?

A. They might be. It is quite likely that they are heavier. The Great Northern has a very fine class of power in use in Minnesota.

Q. Well, now, it is a fact that in the state of Minnesota—from the testimony it appears here that there is a very heavy train movement here,—largely interstate freight, perhaps,—but between the Twin Cities and the Head of the Lakes and states west of the Minnesota state line, there is a pretty heavy movement of heavy tonnage trains; that is true, is it not, or do you know about that?

A. Yes, the Great Northern does a heavy tonnage business.

Q. And in your consideration of this subject of the proper apportionment to locomotives, you made no further investigation into the facts than to note the fact that there were some heavy engines in the mountains, and upon that basis, and that

only, as I understand your testimony, you have disagreed with Mr. Hogeland's apportionment?

A. Oh no, that is not the reason. The reason, as I stated, is that when we consider the engines that are operating in the state of Minnesota, we are considering the engines that we want to reproduce.

Q. Item 36, freight on construction material: you haven't given us anything to indicate what percentage of your figure of $752,547 is made up at full tariff rates, and what percentage is made up of the five mills a ton a mile, construction rate; can you indicate that?

A. I can't give that here, but I can produce it for you.

Q. I wish you would, later on.

A. Yes.

Q. Now, I understand you, that your use of five mills a ton a mile is that your knowledge of railroad methods in the past has been that that has been a conventional figure used by railroads as a charge on their books for the cost of moving construction material?

A. Yes.

Q. How about the moving of company freight after the line is built, or company fuel on a line that has been in operation for a good many years? Has it been the habit of the railroads to arbitrarily charge the same rate to move company fuel or material?

A. Sometimes it has and sometimes it has not. I think more latterly it has charged the full tariff rates on that.

Q. The full what?

A. The full tariff rate.

Q. You know, from past experience, that there was a habit of some railroads, of arbitrarily assigning a certain rate to charge up on their books that cost of moving all kinds and conditions of material, over all kinds and conditions of track, and it has usually been the same rate, has it not?

A. Yes, upon a construction rate.

Q. And the same rate has been applied to move construction material over a line under construction that five years later, would be applied to move company fuel over a line that has gone into full, complete economical operation, has it not?

A. That might be true.

Q. Well, you have never understood, and do not claim now, do you, that that charge was anything more than the baldest kind of an approximation and guess by the operating department of railroads in the moving of this kind of stuff?

A. Well, I wouldn't want to answer that question except in a qualified way. I think that, with the fifty or sixty years of railway operation in this country, the development of arbitrary charges has been pretty intelligently made.

Q. Well, then, let me ask you this question: if a charge of five mills a ton a mile for moving construction material over a road under construction is a fair charge to cover the cost of that movement, would you say it was also a fair charge to cover the cost of moving company fuel over the line five years later when it is in full and efficient operation?

A. It might represent a little more element of profit.

Q. Well, now, did you put that figure in merely because it has been the habit of some roads in the past, or, because you had any knowledge of whether it would cover the cost of moving construction material over a half-constructed road?

A. Well, in making up the estimates the various roads, nearly all of them, used five mills a ton a mile, and some of them four mills a ton a mile, to cover handling the construction material, and knowing that had been a customary rate, I let my judgment conform to what the railroad companies themselves, in the majority of cases, had used.

Q. And I take it from that, that you have made no effort to ascertain, and have no personal knowledge on the subject, as to whether that would fairly cover the cost of moving construc-

tion material over a line under construction?

A. As I just stated, it is based upon the concensus of opinion, as shown on the reports, and according to the customary methods of handling items of that kind.

Q. Well, Mr. Morgan, I don't understand that there has been any concensus of opinion referred to in your testimony; I have never, in my brief experience understood that there was any opinion on the subject of whether that would cover the cost or not. You said that you find as a fact—partly from your experience, perhaps, and partly from inquiry—that railroads have oftentimes used that figure, and you have bent your judgment to what you found as a fact in that regard? Now, my question is, have you any knowledge, yourself, on the subject as to whether that is a fair figure to cover the vost, other than this source which you have referred to?

A. None other than I stated.

Q. Your figure of contingencies here, is that arrived at the same way that you testified in the Northern Pacific case?

A. Yes.

Q. How do you come to differ with Mr. Hogeland on the item of Stores and Supplies in Minnesota?

A. I think that difference is due entirely to additional stores as of June 30, 1908; if you will note, my figure for stores in my report corresponds with the figure for June 30, 1906.

Q. You accepted his figure for 1906?

A. Yes, I accept his figures.

Q. So you have nothing to say in criticism of the accuracy of his figure in Ex. 2 of the amount of stores on hand June 30, 1908?

A. No.

Q. You haven't attempted to check this item or criticise it?

A. No, I have not.

Q. And the interest during construction you have arrived at on the same basis as testified to in the Shepard case?

A. Yes.

Q. You have assumed a period of eight years for the reconstruction of the System?

A. Yes.

Q. Now, Mr. Morgan, this idea of presenting one of the elements of value through the table showing the cost of reproduction, originated in the state of Minnesota, did it not, through your blanks which you furnished to the railroad companies?

A. No, it did not.

Q. Well, the blanks that you furnished to the railroad companies were upon that basis?

A. They were upon that basis, yes.

Attorney General YOUNG: It originated by the Great Northern Railroad in the Steenerson case.

Mr. HOLDEN: I am going to get at that.

Q. You adopted that basis in preparing those blanks?

A. Yes.

Q. And from what source did you arrive at that basis as a proper method to pursue?

A. Well, from a great deal of valuation work that I have done during the past twenty years in connection with my father, and from preparing the valuation of the Omaha properties for the Omaha Company for its lines in Wisconsin, and it is the result of these years of experience in respect to the subject which enabled me to prepare the blanks for making up the valuations in Minnesota.

Q. It is a method, then, which, I understand you, has been frequently resorted to in the effort to make valuations of railroad properties in various parts of this country?

A. Well, it is not exactly in line with it; it is my best judgment as to the best way of making up such a valuation.

Q. And in your experience and from your general information on the subject it has been resorted to by others pursuing the same line of investigation that we are pursuing in this case, has it not?

A. I think substantially so, yes.

Q. Do you know what the original plan of construction of the Great Northern lines in this state was?

A. I haven't analyzed it in detail.

Q. Well, have you any definite knowledge as to how the lines were in fact constructed?

A. None other than the fact that the lines were built across the state to Breckenridge in the first place, and to Sauk Rapids. The subsequent development has been gradual, covering a number of years, and I am not familiar with the details of that.

Q. Then you have no definite knowledge as to when any particular line was built, or where the first lines were built, and what subsequent lines were built during what subsequent years?

A. Not in mind.

Q. Well, have you made any investigation on that subject?

A. Well, I looked into it to a certain extent; not very much, however.

Q. You spoke about the construction of the Milwaukee & St. Paul line west; that is the building, straight west, is it not, of a single line from the terminus, in South Dakota, of the old system, to the coast?

A. Yes.

Q. And it presents the problem of building a single trunk line, practically straight west?

A. Yes.

Q. You say that company has built 1400 miles of track in three years?

A. Yes.

Q. You mean it was three years from the time they began laying track?

A. No, three years from the time they began the construction of the grade.

Q. How long prior to that time had they been engaged in acquiring right-of-way, organizing their work, getting ready for their construction?

A. A comparatively short time; I can't say just how long, but I know, from inquiries made, that they began the construction work very soon after they started the surveys, and the surveys were started three years and two or three months prior to the completion of the line.

Q. And when was that?

A. About the 15th of May, I think.

Q. 1909.

A. Yes.

Q. And by completion of the line you mean the connection of the rails?

A. Yes.

Q. And you have no definite knowledge as to how long prior to the actual beginning of construction they were engaged in their organization and in the acquiring of their right-of-way?

A. No.

Q. Now, the completion of their line, as you state it to be, the connecting up of the last link, so that now there is a continuous rail, does not mean the completion of the railroad in any such sense as we have been considering the reproduction of a railroad in this case, does it?

A. No.

Q. And it is your knowledge that it will be yet a good many months before that roadbed and that railroad will be in anything like the condition of the balance of that system east of the point where they began to build west?

A. Yes, it will take some time before it is developed to a finished road.

Q. And they are not proposing to run through passenger trains until after the first of next year?

A. My recollection is they are advertising through passenger trains the 1st of July.

Mr. How: I think you will find you are in error in regard to that.

Attorney General YOUNG: They are doing it.

Mr. HOW: I think you will find that they are not going to do it; they are not going to run transportation trains until the 1st of January.

Mr. HOLDEN: Those are all the questions I want to ask at this time, if your Honor please, and, Mr. How, perhaps you have some to ask.

Mr. HOW: Well, there is one question I would like to ask.

By Mr. How:

Q. I am curious to know, Mr. Morgan, what the last column in your Ex. C means.

A. The last column in my Ex. C means the present value of the physical properties of the Great Northern lines in Minnesota, taking into account the depreciation by time and use, which shows the difference between its reproduction cost new and what the same elements are actually worth in wearing value today?

Q. Does the footing of that column represent your judgment as to what the property of the Great Northern Railroad in the state of Minnesota is worth today?

A. It represents what the value of the physical properties of the Great Northern Company is in Minnesota today.

Q. Then, in that we are to understand that its grading, clearing and grubbing is worth $16,531,191.24 today; is that what you mean, with reference to each item, as well as the total?

A. Well, yes, with respect to each item, only that item in respect to grading would also carry with it some proportion of item 29, adaptation and solidification of roadbed.

Q. Now, is it your idea that the Great Northern System, as it now exists today, is worth $13,095 000, approximately, less than a new system presently constructed and turned over to the operating department, presently constructed and equipped?

A. So far as the value of its individual parts are concerned, yes.

Q. And you think the total would represent the value of the individual parts, and you add no value on account of the use and adaptability of the System in the state?

A. This is purely and simply an estimate with respect to the physical properties of the Great Northern Company.

Q. Well, it is an estimate of their value?

A. Of their cost of reproduction, and the present value, based upon the depreciation.

Q. Does that take into consideration the adaptability for economical use, or have you omitted any reference to that or any consideration of that?

A. There has been no consideration of that.

Q. Now, you treated the Northern Pacific and the Great Northern on exactly the same basis, the application of the same principles, did you not?

A. Yes, sir.

Q. You refuse to allow the Great Northern any value of easements which it may have in the streets of Minneapolis because, you say, they were given to the Great Northern; do you know what the fact is in regard to that?

A. I stated that my exhibit omits that, but I have a detailed exhibit which shows what the reproduction cost would be if it is proper to include it.

Q. I confine your attention to your Ex. C, which is your summary and your final judgment after all is said and done?

A. Yes, sir.

Q. If you should be advised that the Great Northern paid $500,000 for those easements in the streets, would you then consider that they had any more value than they have now?

A. That is a question that I cannot answer.

Q. Don't know what you would think?

A. No, not without time to consider it, Mr. How.

Q. Do you know whether or not the Great Northern did pay anything for those easements, whether by way of damages to

abutting owners or in any other way?

A. I do not.

Q. Therefore, you do not know whether, if you knew the facts, you would have any different view with regard to the value of the easements in those streets which you have discarded and refused to accept in your final summary?

A. It was assumed that the streets would be granted.

Q. Now, is it not the fact that a large portion of the right-of-way of the Northern Pacific Road was granted by the Government?

A. Yes.

Q. Did you in your estimate of the value of the Northern Pacific road include any of that granted land as of any value whatsoever?

A. It was all included.

Q. Why should it be, if the streets granted by the city of Minneapolis or other municipal authorities should not be?

A. That was a different matter, as I regard it. In the case of the grant of the Northern Pacific by the United States government, it was a grant in fee; it carried the title to the property. Whatever grant they have with respect to the use of any vacated streets, is not a grant, but it is a privilege.

Q. It is an easement which is not revocable, is it not?

Attorney General YOUNG: It is a license.

A. It may be revocable under certain conditions, and there are certain ordinances, in the cities of Minneapolis and St. Paul, by which those easements may be revoked.

Q. You think there is a chance that they may be?

A. Not probably as long as the Railway Company observes the conditions under which the easement was made.

Q. It is, to all practical intents and purposes, an indefinite—at least a grant of a privilege in those streets for unlimited duration, is it not?

A. It might be.

Attorney General YOUNG: Your Honor, it seems to me, if we are going to discuss the legal effect of the grant of the city of Minneapolis, that we ought to have it before us to see what shape it is in.

Mr. HOW: I don't care what it is; I want to know what he knows about it and why he calls those of no value whatsoever.

The MASTER: That is a question for the lawyers, is it not? He has stated fully all that he does know about it.

Mr. HOW: I want to be sure to bring out that he doesn't know anything. Now, if he has got any views, and if he says that he doesn't know what the law is and therefore doesn't know whether they have any rights or not, I am satisfied.

The MASTER: He says he has omitted them.

WITNESS: I have omitted them.

Q. Well, do you know what the nature of those privileges is?

A. I do not call them to mind, Mr. How.

Q. Did you ever know?

A. I did; I read a good many of them.

Q. Now, do you consider now that they are of no value?

A. Of course they are of value, Mr. How.

Q. Why didn't you include them in your items of value, then, of the real estate?

A. Because the Railroad Company does not own them. I am only considering what the Railroad owns.

Q. Then you think the Railroad Company doesn't own these privileges?

A. They own the privileges, but they don't own the ground upon which they rest.

Q. You therefore did not include them, although they own them, because they don't own the ground?

A. I did not include the value of the privileges.

Q. Would you consider that an easement, rather than the fee, if they have easements anywhere in their right-of-way, is of any value?

A. So far as my knowledge goes, we have only used the property that has been owned or is owned by the railway companies. There is no question but what the privileges carry with them an element of value, but it is a very difficult thing to estimate, and it is an element that I made no attempt to estimate, because it does not form a part of the property in which they possess absolute right and ownership.

Q. Do you know what proportion of the right-of-way of the Great Northern Railway Company in the state of Minnesota is based upon an easement and what is based upon ownership of the fee?

A. I do not. I presume, however, that there is quite a little that is based upon easement, especially up in the ore Misabe range.

Q. What difference do you make, then—probably none—in your treatment of the present cost of acquisition or value of its right-of-way, and whether or not it is based upon an easement or a fee?

A. Well, I based it upon the ground that the road practically owned the property, that they could get possession of it at any time they wanted to. That condition is probably not true with respect to the easements in streets, because they cannot be acquired in the same way that you can buy other classes of property.

Q. But, although without any right to acquire them having acquired them, you therefore say they are of no value?

A. I do not say they are of no value, Mr. How.

Q. But you do not include them—

A. I do not include them as property owned.

Q. —and give them any value in your estimate?

A. I do not.

RE-DIRECT EXAMINATION.

By Mr. O'BRIEN:

Q. In speaking of your ascertainment of the quantities of grading, did you measure and travel over the Great Northern System the same as you described your measurements in traveling over the Northern Pacific System?

A. Yes, sir.

Q. So that you did not depend exclusively upon the records of the Great Northern Road in coming to your conclusions as to quantities?

A. No, I did not.

Q. And are the quantities as given by you your best judgment, from all of your examination, as to the true quantities contained in the grading?

A. They are.

Adjourned subject to agreement of counsel and arrangement with Master.

Federal building, St. Paul, Minn., Saturday, August 28, 1909. Hearing resumed at 10 a. m.

CONWAY W. HILLMAN,

sworn on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. Your name is C. W. Hillman?

A. Yes, sir.

Q. You are the same person who testified in the Northern Pacific and Minneapolis & St. Louis cases?

A. Yes, sir.

Q. Have you made and prepared an analysis of the operating expenses of the Great Northern Road for the year ending June 30, 1907?

A. No, sir; not 1907; June 30, 1908.

Q. You have made such an analysis for the year ending June 30, 1908?

A. Yes, sir.

Q. Generally, does the analysis which you have prepared in this suit, follow the same lines as the analysis made by you in the case of the Northern Pacific Company and shown in Ex. 3-M-Hillman in that case?

A. Yes, sir; with, of course, the understanding that the operating expenses in their distribution follow the new classification, and is much further developed in regard to the number of accounts than in the Northern Pacific case. The same general methods have been followed.

The MASTER: And this corresponds more closely to Ex. L in the Minneapolis & St. Louis case, does it not?

WITNESS: Yes, sir.

Q. Now, your conclusions are embodied in a series of tables?

A. Yes, sir; thirteen tables.

Mr. O'BRIEN: We will produce the 13 tables, bound to-

gether, at the next session, and will ask that they be marked Ex. G-Hillman.

Mr. BUTLER: The record may show them produced and marked.

Q. Now, Mr. Hillman, if you will take Ex. G and describe, as concisely as possible, each table composing that exhibit.

A. Table No. 1 of the operating expenses for the year ending June 30, 1908, taken from the Great Northern records and showing the divisions having local service and through and local service; the divisions which go under the local heading and the divisions which go under the through and local heading are shown upon table No. 6, (I didn't consider it necessary to repeat them,) table 6, division B. I would say that the Great Northern consists of twenty-three divisions, which are in Minnesota and touch Minnesota, and that the spreading of that out in detail I considered would be cumbersome to the record and therefore had my men condense it in this form.

The MASTER: There are overlapping divisions, are there, Mr. Hillman?

WITNESS: Yes, sir; there are overlapping divisions, but this is entirely for the Minnesota proportion of overlapping divisions, as their accounts for train mileage, tonnages, as well as the expenses, were kept separately for the overlapping divisions in the state of Minnesota and in the state into which they overlap.

The MASTER: And taken directly from their books, with their divisions?

WITNESS: Taken from their books; yes, sir; with their divisions.

Q. In the case of the Northern Pacific road, were the accounts of the branches in Minnesota kept separate from the branches outside of Minnesota?

A. The operating expenses were, but the tons and ton miles and trains and train miles were not.

Q. So, for that reason, in the case of the Northern Pacific, when you desired to get the branch line cost you took all of the branches pertaining to any of the divisions which were in, or partly in the state of Minnesota?

A. Yes, sir.

Q. And it was necessary for you to do that to get the total tons to compare with the total cost of branch service?

A. Yes, sir; unless I had undertaken the work (which was almost impossible) to segregate those ton miles and engine miles and train miles by the state line.

Q. In the case of the Great Northern and the Minneapolis & St. Louis, you found those tons segregated upon the books of the Company?

A. Yes, sir.

Q. So that you were not compelled to take into consideration any expenses incurred outside of the state of Minnesota?

A. No, sir; none outside.

Q. Nor any freight carried outside of the state of Minnesota?

A. No, sir.

Q. Go on.

A. The table No. 2 is the Company's record of engine miles for the year ending June 30, 1908, by divisions and also by the headings as shown upon this table. Immediately below this record is train miles, represented by totals under Revenue; that is, their train miles correspond with the revenue engine mileage, and therefore, the train mileage, if that factor is necessary to be used or desirable, would be found in the first four lines which are headed Revenue under the engine mileage.

Q. Let me understand that: Where are the train miles, proper, set out?

Mr. BUTLER: On Table 1?

Mr. O'BRIEN: On Table 2.

A. Table 2. The train miles proper are set out under the

first four columns in statement No. 2, which is the statement of the engine mileage; the train miles being represented by the engine miles made in revenue service.

The MASTER: And treated as identical, then?

WITNESS: Yes, sir.

Mr. BUTLER: Now, Mr. O'Brien, will you ask him if he found the revenue train mileage and revenue engine mileage to be identical; is that the point?

WITNESS: Yes, sir.

Q. Does that include switching?

A. No, sir; there is no switching in that. Switching is shown in the sixth and seventh columns from the last, of the table.

The MASTER: Under heading Switching, Passenger, Freight?

WITNESS: Yes, sir.

Q. Now, if the factor to be used in dividing a certain item was revenue train mileage, switching included, where would that be obtained from Table 2?

A. We would add the passenger mileage in the first column, one-fourth of the next in the fourth column, and the switching mileage in the seventh column.

The MASTER: Your theory is that, in case of mixed trains, 25 per cent is charged to passenger and 75 to freight?

WITNESS: Yes, sir.

Q. The same method would be taken for arriving at the freight-train mileage, using the appropriate columns for that purpose?

A. Yes, sir.

The MASTER: How about "Special," what does that mean?

WITNESS: That means special revenue trains, which I would say, from subsequent investigation, I find are almost entirely freight, only $50 out of a special-train earning of $7,000 being assigned to passenger service. This is noted on Martin's Ex. No. 49.

The MASTER: So that "Special" and "Freight" are practically the same?

WITNESS: They are, in this case, sir.

The MASTER: Have you treated them as the same?

WITNESS: I have treated them as the same, and not taken out the very small percentage that that $50 out of $7,000 would entitle them to.

Q. Now, is there any place in Table 2 where those different items are brought together so that the revenue train mileage, including switching, passenger and freight, is shown in one concrete item?

A. Yes, sir; in the total freight and passenger, the proportion of switching, I find, has been included.

Q. In which column?

A. Columns 4 and 5 from the right-hand side of the statement.

The MASTER: In Table 2?

WITNESS: Yes, sir; from the right-hand side, from the end, the final statement.

The MASTER: Under "Total freight" and "Total passenger?"

WITNESS: Yes, sir.

The MASTER: "Total work" is not included?

WITNESS: No, sir; not in freight or passenger, but it is included in their total where they say "Total including switching." If you will take that first item, you will see it is 113,066, passenger, and 699,849 freight; 36,060, work.

Mr. BUTLER: That makes what?

WITNESS: A total of 848,975.

Mr. BUTLER: That is without switching, isn't it?

WITNESS: With the switching included, sir.

Mr. BUTLER: What is the column next to that?

WITNESS: That simply shows the total of switching which was included in total passenger and freight mileage. It is the total of the 6th and 7th columns from the last.

Mr. BUTLER: Well, then, the last column shows the total of all, including switching?

WITNESS: Total of passenger, freight, switching and work.

Mr. BUTLER: And, in the next to the last column, only the switching?

WITNESS: The next to the last column shows only the switching.

Q. And the switching is 726,055 and the total of all, including switching, is only 848,975?

A. Yes, sir; that is on that terminal division.

Q. Now, I think it would be well for you to read into the record, Mr. Hillman, what items are included under the heading Total Passenger in the last subdivision of Table 2.

A. All of the items from the commencement of the statement, the first column, up to this column headed Total Passenger, which have the passenger notation at the top, that would be the revenue passenger; the mixed at 25 per cent; under Light, the eighth column from the first, one-fourth of the 12th column, mixed; the passenger, 13th column; passenger, 15th column, and passenger 18th column.

Mr. Butler suggested that the columns be numbered, which was done.

Q. Now, Mr. Hillman, just take the first line in Table 2 and explain exactly what the amounts set opposite the item Short Line and Terminal represents. First, explain what the short line and terminals are.

A. Short Line and Terminals, practically the utilities around St. Paul and Minneapolis, the Twin Cities, corresponding to what is called the Terminal Division on the Northern Pacific.

Q. Well, how is it that, following that item, there is such a large amount of passenger engine miles and such a small amount of freight engine miles?

A. That is on account, I should judge, of the local service in

commutation and other matters around the Twin Cities, while the freight is handled, to a certain extent, from outside of the terminals from different collating points. I should judge that that was the reason, and that a large portion of this freight-engine mileage which is put here, a large portion of the freight taken from one point to another in this division, is classed as a switching movement, as you will note the switching movement freight is very heavy, 684,002 freight switching miles, under column 19.

Q. In other words, the passenger-engine miles represent the haul of the passenger trains up to the destination of those trains into the depot?

A. Yes, sir.

Q. While the handling of freight trains, upon that division, is included in the switching items?

A. To a large extent; yes, sir. There would be some freights that would come through, say, to St. Paul from the West, which would be classed as regular revenue freight train mileage, while the other matters would probably be handled as a switching item, and I judge that is the explanation of the light freight revenue as against the heavier passenger revenue.

The MASTER: Short Line and Terminals is one of the divisions?

WITNESS: Yes, sir.

The MASTER: And would it include suburban service?

WITNESS: Yes, sir.

The MASTER: Lake Minnetonka, Hutchinson?

WITNESS: Short Line and Terminals division is the St. Paul Union Depot tracks, St. Paul to Coon Creek Junction, State Fair grounds spur, Minneapolis Junction to the old Spring Park junction; old Spring Park junction to the end of the track at Hutchinson; Hopkins Junction to Hopkins; the small mileage at the Minneapolis union depot and the University Switch to First Street, Minneapolis; which would include the Minnetonka business.

The MASTER: That is, it is all suburban business, practically?

WITNESS: Yes, sir. I think it well, perhaps, to just hand the Judge, without making an exhibit of it, this memorandum which is published by the Great Northern Company and which we obtained from them, which shows the divisions.

Mr. O'BRIEN: I think you have it. You have this book, haven't you?

The MASTER: I am not certain whether I have or not.

Mr. O'BRIEN: It is No. 64, Great Northern Railway Company, official list of officers, agents and stations, and corrected to January 1, 1909.

WITNESS: If you will commence with the Short Line and Terminals, with column No. 1, and go right across that line Short Line and Terminals to and including No. 19 you will find that the totals of all columns that are headed Passenger, added to one-fourth of the columns headed Mixed, will produce the passenger result in line No. 20. While those headed Freight and Specials together with three-fourths of the mixed mileage—

The MASTER: Not column 4?

WITNESS: Yes, sir; columns 4 and 12, and column 17, Mixed, will produce the result shown in column No. 21, headed Total Freight. The work-train mileage would be shown in column No. 7 and is carried over to column No. 22. The sum, then, of columns 20, 21 and 22 make the total in column No. 24. Column No. 23 shows the totals of columns 18 and 19, only, which columns 18 and 19 have already been included in the totals shown by columns 20 and 21. I introduced this column No. 23, right next to column No. 24, in order that, if it was desired, a ready subtraction could be made from the total including switching, and the switching to show the total engine mileage exclusive of switching.

Q. Now, that explanation applies to each of the succeeding items?

A. Yes, sir.

Q. Please state if this is correct. The amount shown for this item, Short Line and Terminals, in column 20, 113,066, total revenue passenger miles, is composed of the following items: All of that item appearing in column 1; one-fourth of the amount of that item appearing in column 4; all of that item appearing in column 8; one-fourth of that item appearing in column 12; all of that item appearing in column 13; all of that item appearing in column 15; one-fourth of that item appearing in column 17; all of that item appearing in column 18?

A. Yes, sir.

Q. And the amount shown in column 21 for this same item, Short Line and Terminals, is made up of the following: All of that item found in columns 2 and 3; three-fourths of that item in column 4; all of that item in columns 5 and 6; all of that item in columns 10 and 11; three-fourths of that item appearing in column 12; all appearing in column 14; all appearing in column 16; three-fourths appearing in column 17; and all appearing in column 19?

A. Yes, sir.

Q. In some instances upon this table, under one of these headings, such as "Special" or "Mixed," no amount appears for some of the items. Wherever an amount is placed in any of those columns for an item, it is assigned, as already described, I presume?

A. Yes, sir.

Q. For instance, with reference to the item we were just speaking about, no amount is given for Special under column 9, but, later, in that column, some amounts are given?

A. Yes, sir.

Q. Those amounts should be included in the total of column 21, wherever they so appear?

A. Yes, sir.

Q. Column 23 is the total of columns 18 and 19?

A. Yes, sir.

Q. And column 24 is the total of columns 20, 21 and 22?

A. Yes, sir.

By Mr. BUTLER:

Q. Now, I understood you to say, in explaining this table, that the revenue train mileage and the revenue engine mileage are identical?

A. Yes, sir.

Q. I observe, in columns 15 and 16 under "Helping" certain entries for freight; there is 8,496 miles in column 16, and for passenger, 674 miles, making a total, as I add it, of 9,170 miles. Now, the helping engine is a double-header or pusher, I suppose?

A. Yes, sir; a pusher.

Q. And each engine on a train is a helper only, a pusher, or is it a double-header?

A. A "helping" is a passenger; a "double" is two pulls.

Q. Now, take the case of a train moved by two engines from St. Paul to Minneapolis, the revenue train mileage would be the distance from St. Paul to Minneapolis, wouldn't it?

A. Yes, sir.

Q. The revenue engine mileage would be counted on each engine and would be twice that, wouldn't it?

A. Yes, sir,—not the revenue engine mileage. The revenue engine mileage would be counted only on one engine, and the other part would show either double-header or helper.

Q. That is, you don't count the second engine a revenue engine?

A. No, sir.

Q. Notwithstanding that it is moving a revenue train?

A. No, sir; we do not.

Q. You count it a helper or a double-header?

A. That is, it is counted that way in this computation, for the sake, as I understood them, and I think a very good idea, to have their revenue engine mileage co-incident with their revenue train miles.

Q. Well, didn't we discover that that was not the case, on the Northern Pacific?

A. Yes, sir. They use a revenue engine mileage, on the Northern Pacific, which is not co-incident with their revenue train mileage, on account of counting in those items such as you mention.

Q. Are those tables simply a reproduction, in the form that appears on this table (Table 2) of the books of the Company?

A. Yes, sir, a reproduction of the books of the Company, headings and all.

By Mr. O'BRIEN:

Q. Is that true with regard to the totals?

A. My recollection is that the totals are also shown there on their own records. I don't believe that I have that working paper here, but I think they show totals and all.

Q. Well, take, for instance—

A. I told you they show totals and all,—with the exception of that switching which I inserted myself, that switching column, switching total, column 23.

Q. Well, are not columns 18, 19, 20, 21, 22 and 23 your own columns. For instance, has the Great Northern assigned switching between freight and passenger in that?

A. Yes, sir; they have; columns 18 and 19 are copies of their records. I would not like to say whether or not their columns 20 and 21, or the corresponding columns included the switching, or whether I added that switching to it afterwards to make those columns.

Q. But 18 and 19 are copies of their records?

A. Are copies of their records. That working table is not here.

The MASTER: Then, as I understand, train and engine mileage are the same, except that you eliminate double-heading and helping, which are not included?

Mr. BUTLER: He is neglecting the word "revenue" there.

WITNESS: If you will note, the first four columns are headed "revenue."

The MASTER: That is right.

WITNESS: That represents the train mileage.

The MASTER: Now, what represents the engine mileage?

WITNESS: The engine mileage is the first four columns, plus all the succeeding columns to and including No. 19.

The MASTER: Then train mileage and engine mileage are not identical?

WITNESS: No, sir.

The MASTER: I think there was some expression of that kind —revenue train mileage and revenue engine mileage.

WITNESS: But revenue train mileage and revenue engine mileage are, in this case, identical.

The MASTER: Well, where does "Work" come in? It is probably shown here, but where is that included?

WITNESS: Work is in column 7 and in column No. 22, and is included in the total of column 24. Column 7 is brought over to column 22.

The MASTER: Is it included under passenger or freight?

WITNESS: Neither, sir.

The MASTER: Separate?

WITNESS: Separate.

The MASTER: Classed by itself?

WITNESS: A separate classification.

Q. I understand now, Mr. Hillman, that revenue train mileage and revenue engine mileage, as shown by this table, are identical?

A. Yes, sir.

Q. When you have made up your totals in columns 20 and 21, you include engine mileage, which is not revenue engine mileage?

A. Yes, sir.

Q. So that columns 20 and 21 do not give train revenue mileage?

A. No, sir; they do not.

Q. Now, when you (if you do) use train revenue mileage as a factor in any of your tables subsequently, where do you obtain the factor?

A. From columns 1, 2, 3 and 4, headed Revenue on this table.

Q. Why are not the mileages included in the general subdivision marked "Light," the first column being marked "Special," beginning with 5; that is, column 5, and extending to column 12, included?

A. Because they are, as the heading indicates, engines running light and not earning revenue.

The MASTER: Is that engine mileage, entirely, in that subdivision?

WITNESS: Yes, sir; engine mileage entirely.

The MASTER: Could that be headed Engine Mileage?

WITNESS: The whole statement is engine mileage.

The MASTER: Oh, yes, that is true, but it is simply with the explanation that revenue train mileage is the same as revenue engine mileage.

Mr. BUTLER: 12 is marked "Mixed"; is that "Light," too?

WITNESS: A mixed train running light.

Q. So that explanation applies to columns 5 to 12, inclusive?

A. Yes, sir.

Q. Now, when the Great Northern Company, in making any divisions of its operating expenses, used the factor revenue train mileage, what did it include? which of these columns were included by it for the purpose of arriving at the factor?

A. Columns 1, 2, 3 and 4.

Q. And where you have made a division upon revenue train mileage, you have added to columns 1, 2, 3 and 4 columns 18 and 19?

A. No, sir; not where I used revenue train mileage; where I

used the revenue train mileage plus the switching. I would do so.

Q. Well, it is your claim, is it not, that if a division of any common item is to be made by the use made of the utility, that use to be determined by revenue train mileage, switching should always be included?

A. Yes, sir; I always include switching, not for every item of revenue train mileage, but for the bulk of them; there are certain items which are properly distributed, according to my view of it, on a revenue train mile basis,—might be used; but under no circumstances, in making the division between freight and passenger, where you use freight-train mileage and passenger mileage, can switching be ignored.

Q. Well, what I meant, Mr. Hillman, was this: there seems to be a conflict between you and the accountants of the Northern Pacific Company and the Great Northern Company with reference to what items constitute the factor upon which certain common items should be divided, assuming that the factor to be applied is one obtained from the use of the utility; the companies having divided between freight and passenger upon a straight revenue train mileage basis, ignoring switching mileage and you claiming that if that use of the utility is to be taken as the basis, the switching should be added to the straight revenue train mileage in the following proportions, five per cent of such switching to passenger revenue train mileage, and 95 per cent to freight; is that correct?

A. Yes, sir; that is correct. Where the road does not segregate its switching mileage between freight and passenger, I assume the 5 per cent; where they make the segregation, I accept their segregation of that as made.

The MASTER: May I ask, right here if that difference, pointed out by Mr. O'Brien's question, the results would be practically the difference between what you reach in your computations and what they reach in their computations? In other words,

if the switching had been included, would the final results be practically the same as the results reached by you in your divisions?

WITNESS: They would approximate it to a certain degree, which degree would be reflected by the method. If you would refer to the Northern Pacific tables of my column 4 and column No. 6, Peabody, including switching—I think that I filed an exhibit showing just that difference.

Q. I was going to ask you that; is not that shown?

A. I think I filed an exhibit which would show that difference.

Q. Is not that shown in Ex. 3-N-Hillman, in the Northern Pacific record?

A. I think so; yes, sir.

Q. Now, Mr. Hillman, so that we can understand this matter, if possible, when revenue train mileage was used by the Great Northern Company for the purpose of dividing certain common items between freight and passenger, columns 1, 2, 3 and 4 were so used?

A. Yes, sir.

Q. Of Table 2?

A. Yes, sir.

Q. And you claim that to those columns should be added, for that purpose, columns 18 and 19?

A. Yes, sir; if that factor is used, they should be.

Q. In the case of the Northern Pacific Road, no segregation was made by the Company of its switching mileage between freight and passenger?

A. None that I know of or that came under my observation.

Q. And in that case, when you added that switching for the purpose of obtaining what you claim to be the proper factor, you assigned five per cent to passenger and 95 per cent to freight?

A. Yes, sir.

Q. In the case of the Minneapolis & St. Louis Road, the

switching was segregated between freight and passenger by the Company itself?

A. Yes, sir.

Q. Which assigned 4.67 per cent to passenger and the balance to freight?

A. Yes, sir.

Q. I understand you to say that the Great Northern Company has also segregated its switching between freight and passenger?

A. Yes, sir.

Q. And you have accepted that segregation?

A. Yes, sir.

Q. I find that the total of column 18, passenger switching is 51,562 miles.

A. Yes, sir.

Q. And the total of column 19, freight switching, is 1,345,174 miles?

A. Yes, sir.

Q. What percentage of the total switching is the passenger switching?

A. About 3.7 per cent of the total.

The MASTER: You took the total switching and divided the total switching into each item?

WITNESS: Yes, sir; about 3.7.

Q. Now, take up Table 3.

A. Table No. 3 shows the freight and passenger car mileage by divisions, for the year ending June 30, 1908, the state of Minnesota divided into freight car mileage, loads, empty, and total; passenger-car mileage, coaches, sleepers, diners, other cars, and a total.

Q. Is that statement taken from the books of the Company?

A. Yes, sir.

Q. Is it kept in that form upon the records of the Company?

A. Yes, sir.

Q. Under passenger what does "other" mean?

A. It means express observation, mail. It is headed "O. P. C."—other passenger cars.

Q. Explain Table 3-B.

A. I would say that Table 3-B—I gave it that sub-number, not because it has any special relation to Table No. 3, but that I wished to have Tables 4, 5 and 6 correspond with the same numbers on the other exhibits, and I therefore introduced this "B" number so I could have those tables which are used so frequently bear the same numbers on all three exhibits. The exhibit 3-B is ton miles year ending June 30, 1908, by divisions, state of Minnesota. The vertical column in the exhibit, the first line, shows the branches, across the top, and the mileages below. You will note that, under certain of these branches and divisions, I have put the letter "L." Those are the divisions which show a local movement only.

Q. That is, you mean a single movement only?

A. Yes, sir.

Q. And one class of service?

A. One class of service and local service all the others having both through and local, and I marked those for convenience in reference only.

Q. Is this Table "B" an exact reproduction of the records of the Company or does it only contain the totals shown upon the records of the Company for each of those months?

A. This is a reproduction of the Company's records.

Mr. BUTLER: Well, is the characterization indicated by the letter "L" also derived from the Company's records?

WITNESS: No, sir; I would say, that right after December, in this vertical line, you will notice "supplemental adjustment," and, right after, June "adjustment." That is where, owing to a wrong routing of the freight, it having been assigned by the Company to a certain route and then having been diverted from that and found afterwards, they keep that and make a six

months' adjustment of it; and, therefore, I entered that adjustment just as it appeared upon their books, so as to give me the total ton mileage shown by them on their final record and their exhibit to the State.

Q. In answer to Mr. Butler, you said that the designation of certain columns by the letter "L" did not appear upon the books of the Company.

A. It does not; no, sir.

Q. The question that was asked you was whether or not you obtained the information which caused you to designate those columns, from the records of the company.

Mr. BUTLER: Well, I didn't mean it in that way; I didn't intend to review his method or justifying the characterization, but I simply wanted to show that on the books they were not so characterized.

Q. That character "L" does not appear upon the books of the company?

A. No, sir; certainly not.

Q. But where did you obtain the information which you claim justifies you in so characterizing the columns to which it is attached?

A. From the official time-tables of the Great Northern Company.

The MASTER: Their official time-tables show the time of the freight trains?

WITNESS: Yes, sir; and they show the freight trains by classes, the time freights and the local freights, the stops being indicated I believe, by a dagger, and just the time of passing the other stations, just showing the time, without any distinctive mark, which indicates that the train passes there at such a time and does not make a stop; and the headings of these time-tables are such as indicate the class of service which is on that division, whether it is a through train, running over time, or whether they are through or local freights, "time

freights" or "local freights," as they call them.

Mr. BUTLER: It shows nothing with respect to specials or the number of them, or the number of train miles or ton miles performed by special through trains?

WITNESS: No, sir.

Q. This might be a good place to ask you whether or not, on all of these roads, the freight trains are classified.

A. Yes, sir; they are.

Q. Into how many classes?

A. Well, that would vary with the road. A first-class train is, of course, a passenger train. They sometimes make a first-class and second-class passenger train. When you come to the freights, they would be called second-class trains and third-class trains as they were a time-freight or a local freight. They might be further classified into time freight and through freight and local freight.

Q. What is the highest class of freight train appearing in the public and published tariff sheets and time-tables of the Great Northern Road?

A. I have not looked at the tariff-sheets, but on their time-table it is designated as "Second-class train time-freight."

The MASTER: Which means a through freight?

WITNESS: Yes, sir.

Q. And what is the next class?

A. The next class is the—I am not sure whether they call them third class trains or whether they simply designate them as second-class trains, local; I am not sure of that, but my recollection is, at present, that they call those third-class trains.

Q. Now, on these branches and divisions and portions of the road which you have designated by the letter "L" upon table 3-B, how many classes of freight trains are there?

A. One class of freight.

Q. And what class is that?

A. That is, of necessity, the local freight, doing all the work.

The MASTER: Peddling trains.

By Mr. BUTLER: What is time-freight?

WITNESS: Time-freight, as distinctive, if it is used, is generally used for the through freight, but on some roads the time-freight nray be a freight which is, you might say, a little higher class than the regular through train; it might possibly move at a higher rate of speed or be given preference in some way.

Q. Is coal usually or ever time-freight, except in cases of panic for coal or coal famine?

A. Oh, yes, it is frequently carried on through freight trains.

Q. Is all freight carried on through trains time-freight?

A. No, sir; not always.

Q. Well, what is the line of distinction between time-freight and freight that is not time-freight?

A. The distinction would be shown by the exhibits which were made by Mr. Yapp, in the Northern Pacific case, where the time-freight is the freight which would carry the coast cars. It would also be filled up, to its capacity, with any other freight which would move over a division, but it is generally supposed that it would move practically on a schedule probably a little faster than the other schedules.

Q. Then on the Northern Pacific, we would have no time-freight except such as was moved on the coast cars?

A. Oh, yes, sir; they would move other things on that train.

Q. I wasn't asking what was moved on the train, but I am trying to locate "time-freight."

A. Well, I couldn't say whether all coast cars would be put on a time-freight.

Q. But would all the time-freight be in any coast cars on the Great Northern or the Northern Pacific?

A. Do you mean would all—

Q. —time-freight be on coast cars on the Great Northern or the Northern Pacific, or on the Northern Pacific, I don't care.

A. No, sir; not necessarily.

Q. Then can't we get a definition that is somewhat more comprehensive of time-freight?

A. No, I couldn't give you any further definition than is shown on their schedules, that they are classed as time-freight.

Q. Well, all freight trains run on a time schedule, whether they be local or through—all classes of regular trains?

A. Yes, sir.

Q. And special trains also run on time, because the time is fixed by the dispatcher; am I not right?

A. Not necessarily fixed by the dispatcher.

Q. Well, all regular trains have a time schedule?

A. They have a time schedule; yes, sir.

Q. Special trains may or may not?

A. Yes, sir.

Q. Now, can you define, any more closely than you have, time-freight?

A. I should define it that the time-freight was a freight which was considered a little classier, if I may use the term, than a regular through freight train and therefore given somewhat of a preference in its movement. That is as near as I can come to it.

Q. Time-freight is that kind of freight that is given more preference of movement than through freight, is that it?

A. Now, you are speaking of a freight train or the freight itself? I am speaking of a freight train; and as a freight train, you will find that what they call time-freights will run over a division probably a half an hour better than what they call the through freights, which are not classed as time-freights.

Q. Then time-freights are always special freights?

A. No, sir.

Q. Always through freights?

A. Always through freights; yes, sir.

Q. But always go about half an hour faster over a division

than the regular through train?

A. I should say that would be about it. It would be about the difference which you make between your North Coast Limited and the other express train which moves—would be about the distinction. I could give it that way.

Q. Well, that is a time-freight train. Now, you have sufficiently defined time-freight as distinguished from the time-freight train?

A. No, sir; I didn't start out to do that.

Q. Well, is this a convenient place to do so?

The MASTER: Would it pass over the whole system—the time-freight?

WITNESS: Not necessarily. Time-freight is where it would be necessary or desirable for you to get that freight to its destination as quickly as possible. It might be only a car for Fargo, it might be to Jamestown; it might be for any point on the line, but, as a general thing, I should say that on the time-freights (those fast freights,) the preference would be given, other things equal, to those that had the longest distance to go. That is what I should do were I a traffic manager.

Q. Isn't time-freight, as distinguished from time freight trains, hauled on all classes of trains, both local and through, mixed and special?

A. If you designate time-freight, as what I suppose you mean by hurry-up freight, it would undoubtedly be sent upon whichever train would get it to its destination the quickest, and that would be so governed by the circumstances of the operation it would be pretty hard to go into a definition of what train you would get it on.

The MASTER: I understand, from what you said a moment ago, that in speaking of a time-freight you referred to time-freight trains generally?

WITNESS: Yes, sir.

The MASTER: Are they regular trains that appear in the schedules?

WITNESS: Yes, sir; and designated on the schedule as time-freight.

Mr. DURMENT: Let me ask you, for my own information, as to time-freight distinguished from time freight trains, is time-freight anything more than freight which has the right of way over other freight, entitled to be carried to its destination ahead of other freight, and other freight must get out of the way of it, just the same as local trains?

WITNESS: Yes, that would be a general definition of time-freight.

Q. Well, time freight trains are those trains (without regard to their destination) which take that kind of freight, are they not?

A. They take all kinds of freight.

Q. Yes, but they are calculated to take what is called time-freight, are they not?

A. Yes.

Q. No matter whether they be special, local, through or mixed?

A. Yes.

Q. Isn't that so?

A. No, sir; the time-freight is a through freight train. As I said before, a little classier than the general through freight train, or considered so.

The MASTER: Passing over one or more divisions?

WITNESS: Yes. I think that would be very well illustrated, if I would simply file with the Court at the hearing on Monday these Great Northern time-tables, let the whole distinction be shown there so thoroughly that it would not be necessary to discuss it, and if so desired and there is no objection, I will do so.

By Mr. O'BRIEN:

Q. I think that would be a good thing to do. Let me ask you a question or two now. All the regular freight trains upon the Great Northern road have a regular schedule time, have they not?

A. Surely.

Q. Both through and local trains?

A. Yes, sir.

Q. Now, in that sense, all of those trains are time-freight trains; they have a definite time for starting and ending their trip?

A. Yes, sir.

Q. The trains which pass over one or more divisions are classed highest in the classification of freight trains and are called time freight trains?

A. Not all of them are so designated on the schedule.

Q. Well, are they placed in the first-class freight trains?

A. Yes, sir.

Q. Now, is there any recognized meaning attached to time-freight, or do you simply understand it as freight which requires as speedy transportation as possible?

A. That is all; it is a heading—I was led into this discussion by quoting the heading of the schedules.

Q. For instance, if a carload of oranges, destined to a point between Dilworth and Staples, upon the Northern Pacific road, were carried in one of the regular through trains, it would be detached from that train at Dilworth and attached to the local train between Dilworth and Staples and delivered at the intermediary point?

A. Probably; yes, sir; it is possible they might stop a through train for it, as we know that is sometimes done; through trains do sometimes stop and take off cars for local business which would naturally fall to a local train if they were not handled in that way.

Q. Now, you would call a carload of freight of that kind, which is perishable and requires the quickest service, time-freight, would you?

A. Yes, sir. There would not be any special connection between that time-freight and the freight train bearing the designation time-freight, except that, it being a little faster or clas-

sier, the probabilities are that such freight would naturally find its way, to a great extent, to the time freight train.

Q. A carload of livestock would come within that same classification, would it not?

A. Yes, sir.

Q. And might result in the stoppage of a through train at an intermediary point?

A. Yes, sir; that might be done.

Q. While you would not expect a through train to be stopped for the purpose of setting out a carload of lumber?

A. No, sir.

Q. Will you have these time-tables here Monday?

A. Yes, sir; I will.

Adjourned until Monday, August 30, at 10 a. m.

Federal Building, St. Paul, Minnesota, Monday, August 30, 1909. Hearing resumed at 10 o'clock a. m.

CONWAY W. HILLMAN,

recalled on behalf of Defendants, testified:

By Mr. O'BRIEN:

Deft's. Ex. G offered in evidence.

Q. When we adjourned last Saturday, Mr. Hillman, we were speaking of the different classes of freight trains regularly operated in Minnesota by the Great Northern Road.

A. Yes, sir.

Q. Have you with you this morning a time-table?

A. Yes, sir; I have. I will just refer to the St. Cloud & Fergus Falls division time-table No. 84, taking effect Sunday, June 6, 1909. The first page shows all the passenger trains marked as "first-class"; it shows the time-freight, which are through freights, marked as "second-class"; it shows the local

freights, marked as "third-class" and headed "local freight."

Q. Well, now, taking the freight trains, just read the heading of the columns to which you have referred.

A. Page 2 of this time-table, St. Cloud & Fergus Falls division, No. 84, shows the heading of first-class, under which are trains 11, 31, 1, 7, 5, all passenger; no distinction made between an express and a local train in the passenger, save where the letter "S" is put in front of the time at the station, which means a stop, "F" meaning a flag, and in that way, only, could we make the distinction between the passenger trains as to whether they were through or local trains passenger. On the freight trains we have "Second-class, No. 405, time-freight, leaves daily." The next is third-class, Nos. 517 and 505, headed "local freight, leave Monday, Wednesday and Friday, for 517, and leave Tuesday, Thursday and Saturday for 505." The same classification of the freight would show, in the reverse movement, east-bound.

The MASTER: That makes a daily local movement, does it not?

WITNESS: Yes, sir. I would say that on some of the lesser branches, there is a tri-weekly movement, up one day and back the next. The same distinction is preserved on the Northern Division time-table 18, taking effect at the same time as the above.

Mr. O'BRIEN: We won't offer this time-table in evidence, but will leave it with the Master, in case he wishes to refer to it.

WITNESS: They are on file at the Capitol, but I don't think their loss would be any particular concern; they are the official file, but they can always get more of them if they want them.

The MASTER: Well, this testimony with reference to these divisions that you have mentioned, is just simply to show, in a general way, the course of business; they are sort of typical of all the divisions, in connection with your testimony?

WITNESS: Yes, sir.

The MASTER: Perhaps I shall not have any occasion to use them.

Mr. O'BRIEN: Possibly not.

The MASTER: The testimony itself shows exactly what their nature is.

Mr. O'BRIEN: I suggest that anything of that sort that the Master would find it necessary to refer to, can always be obtained, with the consent of both counsel, any of these official publications or anything of that sort. No objection to that, is there?

Mr. BUTLER: No.

Q. Have you ever had occasion, Mr. Hillman, to examine the train-sheets of the second-class trains which you have just described as being marked time-freight, for the purpose of ascertaining how those trains are actually handled?

A. Yes, sir; I did look at that, for only two trains, however; while setting up the examination for the amount of tonnage on the through and local trains, I was informed that there was a haul from St. Paul to Minot, North Dakota, as a through haul; that, divisionally, the train would come to the end of a division and that there it would be simply put on with a new crew, new engine, new caboose, and start on again. That is such an unusual haul for freights (500 miles) that I asked for the train-sheets showing that movement of the solid trains. They could not produce any train-sheets showing that solid movement. That matter, then, together with Mr. Elliott's (I believe) testimony concerning the through movement from Staples to Ellensburg, induced me to have Mr. Yapp take off those tables showing the movements on that Northern Pacific through train 517, (I think the number is,) to Ellensburg from Spokane, wherein he shows the number of cars backed off and taken on at each of the terminal points, and the number of cars with which they arrive at Ellensburg, which matter has already been filed as an exhibit in this case, I understand. Am I correct?

The MASTER: In connection with Mr. Yapp's testimony?

WITNESS: Yes, sir. And, further than seeing that those time-cards which were produced at the time did not show the solid through movement, I made no further investigation, but left it to Mr. Yapp to do.

Q. From your general experience, are you able to say whether or not a through train, for instance, from St. Paul to the coast, means a train composed exclusively of through cars?

A. I should say that it does not mean composed exclusively of through cars.

Q. A train containing freight destined to the Pacific coast and leaving Minnesota, would be considered a through train, would it not?

A. Yes, sir.

Q. And a train of that sort would have a designated and fixed number?

A. Yes, sir; it would be numbered.

The MASTER: For the whole distance?

Q. Yes, that number would remain with the train the entire distance, would it not?

A. My recollection is that it did, on the Northern Pacific. I haven't looked at the Great Northern time-table to see whether the same number follows the train through each division from St. Paul to the coast.

Q. You say that is the case on the Northern Pacific, and, so far as you know, it would be the case on any road, that the identity of the train, by the number, would remain the same?

A. I would say, as a usual thing, that the identity is not preserved from end to end of freight trains. The identity of the train, you might say, is preserved, but I do not think that, as a usual thing, they bear the same numbers. I couldn't say as to that without examination.

Q. Well, now, to come to the road of which we are speaking, do you know whether or not the train retains the same number over its entire run?

A. I find, on the Montana division, in the second-class trains, Nos. 401 and 411, marked "time-freight." I find on the Minot division, the same trains, 401 and 411, "time-freight." I should judge, from that, that those time-freights (401 and 411) retained their identity on the through run, at least. And on the Cascade division, I find marked in second-class, "train 401," 411 evidently not reaching that far. So that a time-freight would retain its number through from the initial point to the last, I should judge from that.

Q. Does that indicate identity of cars over the entire run?

A. No, sir; not necessarily; there are certain cars which would go through in that run, but, at each divisional point, there would be additions and subtractions from that trainload.

Q. I think we had finished with Table 3-B of Ex. G. I now call your attention to Table 4. Will you please explain what that is?

A. Table 4 shows the division between freight and passenger, according to the Great Northern method, in the first double-column headed Great Northern. In the second double-column, it shows the division between freight and passenger, as found by me, on the method detailed in column 4, Northern Pacific exhibit and in the last column of the similar Table 4 in the Minneapolis & St. Louis. In all these divisions, wherever, the Great Northern books showed an allocation to freight or passenger, I have accepted the amount on their books so allocated as being correct, and have made the divisions of the balance upon a stated basis.

Q. You have agreed to furnish and file a statement showing the basis upon which each item was divided by you as now appearing in the second double-column of Table 4?

A. Yes, sir; I have been requested to file such a statement, and I will make it and file it, showing the detail and the bases of divisions and the amounts allocated and the amounts divided, for the Northern Pacific, the Minneapolis & St. Louis, and the

Great Northern roads; and, I would ask here, if it would be well to have those statements separate for each road so that a copy could be filed in each case of the road which is under consideration, or should it be a consolidated statement? The consolidated statement, it seems to me, would be a little more cumbersome, but it might be more convenient for reference.

Mr. O'BRIEN: Wouldn't it be well for us to agree on that when we see the statement and see how it is?

Mr. BUTLER: Yes.

WITNESS: Then I understand you will agree upon that and let me know, later, in what form it is to be filed.

The total of Table No. 4, as shown by the Great Northern shows $8,141,355.61 as the freight expense; $3,670,058.75 as passenger expense. The division given by me shows $9,630,-049.95, freight, and $2,736,364.41 passenger.

Q. Does the Great Northern Railway Company keep its accounts by divisions?

A. Yes, sir; by divisions.

Q. And are its expenses assigned to freight and passenger business, respectively, on its books, by divisions?

A. Yes, sir.

Q. You have in this case also treated the state as a unit?

A. Yes, sir. I would say that this first double-column in Table 4 is a copy of Ex. 54-Martin, filed in this case, and in that there is just an error of one cent, an inadvertent error, evidently typographical, of one cent; so in Mr. Martin's statement—it don't amount to anything, but I mention it for fear it might be thought that I had not followed his figures directly.

Q. In connection with that exhibit, Mr. Martin filed a statement giving the basis upon which the various items were divided and assigned to freight and passenger, did he not?

A. I believe he stated it in his testimony.

Q. Table 5.

A. Table 5 corresponds to the table of a similar number in

the Minneapolis & St. Louis and the Northern Pacific cases, and represents the freight movement, tons and ton miles, through, local, and all trains; carloads, less than carloads, and total of the freight, taken from the agents' abstracts and other papers showing the freight movement, as has been explained in the Northern Pacific case testimony, and is what has been termed the "Entitled to" table.

Q. The station agents' abstracts were examined for the months of October, 1907, and April, 1908?

A. Yes sir.

Mr. BUTLER: Before you leave that, I would like to ask whether you examined the way-bills or not, to build your "Entitled to" table?

Q. Were the way-bills for those same months examined in connection with the preparation of Table 5?

A. The basis of Table No. 5 is the agents' abstracts. After the examination of the agents' abstracts, knowing the trouble which had come, or the discrepancy which had ensued on the other roads, I took the "Loss" sheets (which I had had marked as we went along in the examination of the losses,) I had them marked interstate or intrastate, and from the totals found from agents' abstracts and the other papers I had a deduction made according to the adjustment, making these figures to the true interstate-intrastate movement, so that while the basis of this was not the agents' abstracts, yet agents' abstracts were examined.

Q. Aren't you mistaken in that, don't you mean way-bills?

A. Yes, the way-bills were examined, and a deduction made of the amounts shown by those way-bills where we had noted they were inter or intra. So that both the agents' abstracts and the way-bills were examined for this, and we might call it a table made on agents' abstracts with the corrections from the way-bills where the agents' abstracts would not show distinctively whether the freight was through or local.

Q. How many such way-bills did you examine?

A. About 750,000.

The MASTER: For those two months?

WITNESS: Yes, sir.

Q. Table 6.

A. Table No. 6 shows the process of determining by us what I term the branch-line factor, of first the through and local tonnage movement; second, division B, tonnage and cost of train movements; C, determining the cost of through and local; D, determining the cost of inter and intra. The factor which is taken here as the cost of the local movement, as distinguished from the through, I consider excessive. It was my intention to use a different method in order to obtain this relation of through and local train movement costs, but it was considered advisable that we preserve the uniformity of our methods in those three cases, as they are closely allied, and used the same factors and the same methods of making this determination, although it would be to the detriment of the State's case; and, therefore, we have used this branch-line method on Table No. 6 in the same way that we used it upon the Northern Pacific and the Minneapolis & St. Louis. The method of handling the freight traffic presented on the Great Northern Road is different from that of the N. P. They have practically four fingers reaching out into the Dakotas, or reaching out northwesterly from St. Paul, upon which through trains are run, and it leaves the other divisions with a very light tonnage, and with the correspondingly heavy expenses; and for that reason, as I said, I did not intend to use this method, but for the sake of uniformity I have used it, and from the fact that we have these low tonnage divisions upon which there is only a local service, we have used a very high factor in that case. The first division is A, and from the examination of the train records, upon which records, ton miles, each train, are shown, we have the following figures for all divisions in Minnesota for the month of October, 1907, and

April, 1908. These records show the ton miles handled by the train, including the tonnage on the train and the weight of the cars. The car mileage is also shown on these records, loaded and empty. We know the average weight of the cars; by multiplying that number, average weight of the tons into the loaded car miles and the empty car miles, we are enabled to obtain the dead tonnage, both of empties and of loaded cars; and deducting that from the total as shown by those reports, gives us the figure of the live tonnage, which is the figure shown here. This shows that, on the total of Minnesota, all divisions, 379,052,221 ton miles moved on through trains, and 75,195,685 ton miles moved on local trains, 83.446 per cent on through and 16.554 per cent on local.

Q. Mr. Hillman, you have not stated the percentages in Table 5. It seems to me that this would be a very convenient place in the record for you to put those percentages in inasmuch as you have given them on Table 6.

A. I remember that you asked me to do that and I omitted it; I do not know why. I think I have it here.

The MASTER: That is found in the Northern Pacific table, isn't it, the percentages?

Mr. O'BRIEN: It has been testified to in the record; it is not on the table in that case, either.

A. The percentage of through train ton miles—

Mr. BUTLER: Inter ton miles or ton miles?

WITNESS: The percentage of through train ton miles is, according to Table No. 5, 87.998 per cent of the total ton miles. The percentage of local train ton miles is 12.012 per cent of the total ton miles. On through trains, of that 87.998 per cent, 95.631 per cent was inter and 4.369 per cent intra. Of the 12.012 per cent carried on local trains, 69.949 was inter and 30.051 per cent was intra. Of the 100 per cent carried on all trains, 92.546 per cent was inter and 7.454 was intra.

Mr. BUTLER: So that I may more clearly understand that,

Mr. Hillman, I would like to ask a question. Tell me how you get your 87.988 per cent of the total attributed to through trains.

WITNESS: I obtained the 87.988 per cent by the addition of the figures 348,299,776 shown in the first column of Table No. 5 to the second column in Table No. 5, 15,913,247, which gives me the total tonnage upon through trains. I then add together the totals of the third and fourth columns on Table No. 5, which gives me the total ton miles upon the local trains. I add these two totals together and obtain the percentage by the division of the grand total into each of the sub-totals, giving me 87.988 per cent on through trains and 12.012 per cent on local trains.

Mr. BUTLER: How do you get 95.631 per cent of the 87.988 per cent?

WITNESS: To obtain the 95.631 per cent inter on through trains, I add together the total of the first column and second column on Table No. 5 and divide that total into each of the items which constitute it, giving me the percentage of the amount of inter and intra, respectively, carried on through trains, 95.631 per cent inter and 4.369 per cent intra. I follow the same method, exactly, on the local trains, and obtain the percentage of inter on local of 69.949 per cent and of intra on local trains 30.051 per cent.

Q. I think you confuse the matter a little, Mr. Hillman, by speaking of the per cent of a per cent, which I do not think was necessary. Take the first two columns on Table 5, under the heading Through Trains. Now, on through trains there was carried 348,299,776 tons of interstate freight, and 15,913,247 intrastate freight; is that correct?

A. Yes, sir.

Q. By adding those two totals and dividing the total into either one, you get the percentage which that bears to the total; isn't that it?

A. Yes sir; the total on through trains.

Q. That gives you the total percentage of intrastate freight carried upon through trains.

Mr. BUTLER: What is it?

Q. Now, give that percentage.

A. 4.369 per cent of the total tonnage on through trains was intrastate.

Q. I think you have confused us all. Instead of saying that the intrastate freight carried upon through trains was 4.369 per cent of the total tonnage carried on through trains, saying that it was 4.369 per cent of 87 per cent.

By Mr. BUTLER: Let me see if I can get at this, in another way.

Q. From your examination of these 750,000 way-bills, or thereabouts, you determined that, in Minnesota, in these two months, 7.454 per cent of all the business moving on the rails in Minnesota was intrastate business?

A. Yes, sir.

Q. That was derivable only from the way-bills?

A. From the tonnages corrected by the way-bills; yes, sir.

Q. Now, how much of that was entitled to move on through trains, as you have classified it, how much of the 7-plus per cent, in ton miles?

A. 51.25 per cent approximately.

Q. That is all revenue freight?

A. Yes, sir.

Q. It does not include any dead freight or Company freight?

A. No, sir.

Q. Now, what percentage of the 92-plus, being the interstate business, moved on each class of trains?

A. Approximately 91.18 per cent.

Q. So the through trains hauled 91-plus per cent of interstate business, and 51 per cent, plus, of the other, of intrastate?

A. The through trains; yes, sir.

Q. Or, were entitled to haul it?

A. Entitled to haul it; yes, sir.

Q. And that would leave, for the local trains, less than 9 per cent of the interstate business?

A. Yes, sir.

Q. And less than 49 per cent of the business local to the state, which is 7 per cent of all?

A. Yes, sir.

Q. It would be a pretty light burden for local trains, wouldn't it?

A. Yes, sir.

Mr. O'BRIEN: What do you mean by through and local trains?

WITNESS: I mean by a through train one that moves over a division with few or no stops and does not do the local work and does not carry the peddling car. Such trains as are denominated time-freight, on the Great Northern road would be that class of train.

Mr. BUTLER: How many divisions have no through trains at all? what mileage does it cover in Minnesota?

WITNESS: Nine out of the twenty-three divisions have no through train movement.

Mr. BUTLER: Could you tell us, conveniently, about what mileage that is?

WITNESS: No, sir; I have not got it. The track mileage, I suppose you mean?

Mr. BUTLER: Yes.

WITNESS: No, sir; I have not.

The MASTER: That is, there are nine out of the twenty-three divisions over which a through train does not run at all?

WITNESS: Not save as an incident; not scheduled to run.

Mr. BUTLER: Not entitled to run. Now, name those divisions, will you, so we can figure up the mileage.

WITNESS: The Hutchinson branch, Eagle Bend branch,

Pelican Rapids branch, Halstead branch, St. Hilaire, Benson Valley, Brown's Valley and Tintah branch. They are shown on the second division of Table 6, so you will have no trouble in locating them.

Q. Now, all of the other mileage of the road, except these nine that you have mentioned has a regular local train each way each day, has it not?

A. They have regular local service, sometimes more than one train, and frequently that train will run part of the way over one division and part over the other, but they have through and local service the entire extent of the line, each day.

Q. Yes, that is what I say.

A. Yes, sir.

Q. So there are regular local trains over all of the lines?

A. Yes, sir.

Q. And on all of the lines that have not through trains, the local trains are daily?

A. No, sir. I recollect that, on the Tintah branch, they have only a tri-weekly service.

Q. Have they through trains there, too?

A. No, sir; only local.

Q. Then, you misunderstood my question or I misspoke myself. On the 23 branches, all together, 9 have no through. 14 have through. Those 14 that have through, also have local, and those locals are regular, daily, each way, are they not?

A. Yes, sir; daily except Sunday. I would say that on one little piece of road (I do not remember which it was) I could not find that it had any local service at all, but it was a very small portion of track and I suppose it was somewhere in the state.

Q. My questions related to the period that your Table 5 relates to. Was it so intended by your answer?

A. Yes, sir.

Q. Can you give us the train mileage, local and through,

in the state for those months, the percentage of each, or the car mileage total through and local, or the engine mileage total, through and local?

A. No, sir; I could not from the data that I have here, as the paper shows the total for the year. I have that data by months amongst my working papers, which are copies of the Great Northern books, and the totals which would be shown by them for those months would be the same as shown by me.

Q. Well, if you can get it so as to put it in this afternoon, it will save some time and trouble in taking it up again. It would be interesting, I think.

By Mr. O'BRIEN:

Q. Go on, Mr. Hillman.

The MASTER: On this table No. 6, there are only eight divisions which have a local service only; is that true?

WITNESS: There are twenty-three divisions, your Honor, but I have miscounted, in counting there; there are but eight of those divisions.

Mr. BUTLER: Instead of nine.

WITNESS: Yes, sir; that was a mistake in running down the count here.

Q. The ones enumerated by you as having only local service are the same ones marked with "L" upon table 3-B?

A. Yes, sir. I see that there is a Breckenridge main line there, upon which a slight expense occurred, the fourth from the bottom division B of Table 6, where a cost of train service was shown, but the tonnage was not separated for the short time in which that division was in operation. That, you see, will give you 15 counts on the extreme right-hand column of Table 6, and only 14 as the tonnage was included elsewhere. I cannot remember, just at this moment, where that was included, but I think it was in that Dakota main line. The tonnage was not separated for the short time that that Breckenridge main line was operated as a division. I remember that

circumstance now, although I had overlooked it for the moment.

The next division is Division B of Table 6, which shows the tonnage statement taken from the Great Northern records and the expense cost of train service items taken from the Great Northern records of their operating expense sheet, showing the Great Northern figures for these train service items. The amount, as you will notice, is 64,564,371 ton miles on local service, at a cost of $158,958.13. The cost per ton mile on the branches having local service is 2.46201 per ton per mile, reflecting the highest cost of local train service. We have the ton miles where we have both through and local service on the divisions as mentioned amounting to 2,059,180,362 ton miles, at a cost of $1,910,037.22. We then pass to Division C of Table 6, upon which we show that the total ton miles for the System were 2,123,744,733 and the total cost of these train movements was $2,068,995.35. We find from the Division A of Table No. 6 that 16.544 per cent of the tonnage was carried on local trains; we find 16.544 per cent of the total tonnage amounts to 351,654,703. We deduct this tonnage from the total tonnage which gives us the balance of the tonnage, (expressed in ton miles, of course,) which is carried on through trains, of 1,721,180,030. We then take the cost of the train movement of the local tonnage 351,564,703 at the local train cost found in Division B of 2.46201 which gives us, with this 351,564,703 ton miles as carried, a cost of $865,555.81. Deducting this from the total cost, gives us a cost of $1,203,439.54. Dividing the figure 1,721,180,030 ton miles into this sum, we have the cost per ton mile through of .67907. Dividing the 2.4620 by this .67907, it gives us the factor of 3.625, or that it costs 3.625 times as much to do local as through, on train service movements. We then, in Division D, take the ton miles from Table No. 5, 14,942,011 carried on local train of intra freight, and multiply that by 3.625, giving us a result (carried over to the extreme right of Table 6) of 54,164,790. We then take the

number of tons from Table 5, of intra freight which is carried on a through train at 15,913,247. Carrying this figure also to the extreme right, adding the two equated figures together and dividing by the actual tonnage carried, it gives us the 30,855,258 ton miles of intra carried at an average cost of 2.271. Treating the inter-freight in the same way, multiplying the number of ton miles brought over from Table 5, which was carried on local train, by 3.625, and the number of ton miles which was carried on through train by 1, it gives us the result that the total inter freight on all trains of 383,079,992 ton miles was carried at an average cost of 1.238. If we divide the 2.271 by the 1.238, it equals 1.8344, or that it costs 1.8344 times as much for intra as for inter, train movement items, or 83.44 per cent more. I call attention to the fact that, instead of multiplying out the ton miles (this average cost) into ton miles again, we can just simply use the relation which exists between the equated figures on the side as the figure for the division of the inter and intra cost of train movement items.

Q. That is, you mean if there is an item that is common between inter and intra, and which is also one of these train movement items, you can arrive at the respective amounts to be assigned to inter or intra by taking 12.872 per cent of that item as the cost of intra?

A. Yes, sir.

Q. And 87.128 as the cost of inter?

A. Yes, sir.

Q. It appears in Division C of Ex. G that it costs 3.625 times as much to haul local freight as through freight?

A. Yes, sir.

Q. In the Northern Pacific case, following this same method, you came to the conclusion that it cost 2.13 times as much to haul local freight?

A. Yes, sir; that was the figure.

Q. In both cases, the estimate is confined to the items en-

tering into the direct movement of freight?

A. Yes, sir; direct train movements.

Q. Now, is there anything in the character of the branches upon the Great Northern road which you have used for the purpose of ascertaining this relative cost which distinguishes that road from the Northern Pacific, or in the character of the lines of the Great Northern which you have classed as main lines?

A. Yes, sir. The Great Northern road as I said before, spreads out in the West and has practically four gateways out into Dakota, four lines reaching out to the West, and over each of those lines they run both through and local trains. On the small branches and side lines, (though they are often termed divisions and treated as divisions in the segreation of operating expenses,) on each of these, there is a very light tonnage and their trains run locally. The Tintah branch is an extreme example of that, as showing that the branch does not pay operating expenses, on account of light traffic which goes over it. I had occasions to look over that for another purpose and found that the contention of the Great Northern Railway officials in that case, of the Tintah branch, where it was before the Commission, was sustained, that the road did not pay operating expenses.

Q. The result of it is that, in confining yourself in this computation, to these smaller branches, you have taken a very extreme instance, for the purpose of arriving at the cost of local service?

A. Yes, sir.

Q. And that was what you meant when you said you did not consider it did reflect the cost of local service, but was excessive?

A. Yes, sir; that is the idea I had.

Mr. DURMENT: Well, as I understood him, in the Northern Pacific case, he said that he did not claim that the local cost

obtained on the branches was a true index of the local cost on the main line, and that the difference between the Northern Pacific and the Great Northern is that the Great Northern has a much more excessive cost on the branch over that upon the through or main line, than the Northern Pacific.

WITNESS: Yes, sir; I claim, even in the Northern Pacific case, that the taking of the branch line reflected the extreme cost, and in this case, if there can be anything more than the extreme cost, I think I have got it.

Recess until 2 P. M.

AFTERNOON SESSION.

By Mr. BUTLER:

Q. By your Table 5 it is indicated, as I understood your explanation this morning, that 87.988 per cent of the total of ton miles were entitled to through train service, and that the balance 12.012 per cent of the ton miles were entitled to local train service, in the months covered by your computation, and I asked you to give us the local engine miles, the local train miles, and the local car miles, and the same information with respect to through; have you the figures?

A. I understood you to say the total train miles, total ton miles and the total engine miles for those two months.

Q. I wanted it divided between the local and through, to see how the performance corresponded with the "Entitled to" table in ton miles, train miles, engine miles and car miles. Maybe I didn't make it clear.

A. I had not understood it that way. I understood it was only two months to be separated, sir.

Q. That is all that needs to be separated.

A. I understood those two months taken out from the total, the division between the two.

Q. Well, let us have the total; let us have what you have got, it will save asking for it again.

A. The total engine miles showing for Minnesota, for the months of April and October, amounted to 1.228,198.

Q. That is revenue engine miles?

A. No, sir; that is the total engine miles.

Q. Have you the train miles?

A. I have the revenue train miles, which amounted to 485,-622 for passenger, 578,895 freight, and 23,353 makes—

Q. Then, as I understand it, the revenue freight train miles would be the same as the revenue freight engine miles?

A. Yes, sir.

Q. 578,895?

A. Yes, sir. When I gave you the train mileage, it was taken from the engine performance sheet.

Q. Now, can you give that divided between the local and through, as you have classified the service for those two months covered by your "Entitled to" table?

A. No, sir; I haven't the revenue train miles divided.

Q. In order to make your Table 6 you had to have that information, didn't you?

A. I had the revenue ton miles.

Q. But not the train miles?

A. I can give you the revenue car miles for the month of April.

Q. Loaded and empty?

A. Loaded and empty, for the month of April only! the month of November is not complete in the Great Northern records, and after the 15th they abandoned that, for the month, until they would catch up with their work; and after going as far as the 15th and getting off our loaded and empty car miles on the record, we were compelled to abandon our loaded and empty car record, for that month, because of a lack of information.

Q. Can you give us the loaded car miles or the empty car miles, or both, for April, divided between local and through

trains, as you have classified them?

A. Yes, sir. For the month of April, 1908, the through car miles were as follows: loads, 3 668,248; empties, 990,914; local trains loaded, car miles, 1,364,891; empty, 713,736.

Q. Total loaded and empty of each class?

A. The total number of car miles on the through trains was 4,659,162; the total car miles on local trains, 2,078,628. I have the percentages, if you desire that.

Q. Yes.

A. 69.15 per cent of the traffic in April was on through trains.

Q. You mean car traffic?

A. Car travel, yes, car miles.

Q. Yes.

A. And 30.85 per cent was on local trains. Of the total car mileage 54.44 per cent was loaded through car mileage; 14.71 per cent was empty through car mileage; and 20.26 per cent was the loaded car miles on local trains; I mean of the total traffic; and 10.59 per cent of the total traffic was the empty car miles on local trains.

Q. From your examination can you tell us whether or not the revenue engine mileage would be in like proportion, similar proportion as divided between through and local, that is, the car movement travel?

A. I couldn't say that, because they have different classes of engines, which they load heavier or lighter, and it would be impossible for me to say that.

Q. If you could, without inconvenience, give me the information that I asked for in my first question this afternoon, I would be obliged to you.

A. I don't know whether I can do that or not. I will see if my statistics will enable me to give the information, Mr. Butler, and let you have it.

By Mr. O'BRIEN:

Q. In connection with your last testimony, are you able to

state the average loading of the through and local cars?

A. Yes, sir; I made a computation of that. I have not the data with me, but my recollection—and I am sure it will be correct within a point or two—was that the loading on the through trains, main line, was a trifle over 20 tons, 20.7, if I recollect; the loading upon the local train was a trifle higher than that, approximating very closely to 21 tons.

By Mr. BUTLER:

Q. Table No. 6 includes dead freight?

A. Yes, sir.

Q. Dead weight?

A. Yes, sir. When you said dead freight, you meant it includes Company freight?

Q. Yes.

A. It does not include the dead weight of the train; I have taken that out.

Q. What percentage of all the freight tonnage moved, expressed in ton miles, is Company freight?

A. I don't know, sir; I didn't examine.

Q. How divided between local and through,—any idea?

A. No, sir; I haven't examined it.

Q. Well, can't you, from your examination of all these waybills, and the study you have given it, give some idea as to what percentage of the freight does not pay any revenue, either in tons or ton miles, or carloads, or something?

A. It would be in the neighborhood of seven per cent.

Q. Do you recall that, in the Northern Pacific case, you testified it was 18 per cent on that road?

A. No, sir; I don't recall having done so. I probably worked that up at the time from some tabulation I had before me, but I don't remember what it was.

Q. You would expect to find it about alike on both roads, wouldn't you?

A. I have roughly run this up for the reason that on these

ton miles as expressed in Division A of Table 6, would be included the Company freight, and that amounts to about 454 million ton miles, while the ton mileage examined and as shown as passing on the through way-bills is about 314 million ton miles, if I recollect correctly. The difference between that would be in the neighborhood of 40 millions, or a little over 7 per cent of the total as expressed in my 354 millions. That is the rough mental calculation I made when I said 7½ per cent as the only indicative figure that I had at hand.

Mr. O'BRIEN: I hardly think, Mr. Hillman, you are required to give a guess as to matters which are so clearly within the knowledge of the Company. If there is any computation counsel desires to have you make from this table, I would be very glad to have you make it, but if you haven't made it, and haven't the exact data, they probably might be relied upon to present the facts.

By Mr. O'BRIEN:

Q. Calling your attention to Table 7,—that is the table in which the division of operating expenses between inter and intra freight in Minnesota is made, is it not?

A. Yes, sir.

Q. State whether or not the method of making that division is the same as adopted by you in the Northern Pacific case?

A. Yes, sir; with the exception, of course, that the expanded operating expense accounts, under the new division, necessitated our handling the yard traffic separately from the general freight traffic of the road, which has been explained in the M. & St. L. case, and will be further shown on the sheets which I have been asked to furnish by Mr. Butler. The general plan of division was the same in this as in the other cases.

Q. Where does the item appear in these operating expenses which has been described as the amount to be charged off for depreciation by a recent order of the Interstate Commerce Commission?

A. Accounts numbered 21, work equipment, renewals and depreciation,—there noted as one item under the Great Northern Classification, but it is almost entirely depreciation; also item No. 34, steam locomotive depreciation. In lieu of item No. 40, freight car depreciation, on Table No. 8, we would have 37, passenger train depreciation, the other two items, 34 and 21, showing the passenger proportion of work equipment depreciation and locomotive depreciation.

Q. You say that the amount charged for depreciation of work equipment is almost the entire item?

A. You see that the accounts 20 and 21 there, are bracketed, Work Equipment, Renewals and Depreciation. These were kept by the Company as one item, and I have taken the total of it, and most of it is depreciation, very little entered, if any, under Renewals.

Q. The other items on Table 7, Nos. 34 and 40, consist entirely of depreciation?

A. Yes, sir.

Q. And that is true of items 21, 34 and 37 of Table 8?

A. Yes, sir.

Q. Now, the entire cost of maintaining and renewing—at least of maintaining and repairing—the properties of the Company, is included in other items of these operating expenses, is it not?

A. Yes, sir.

Q. And this item of depreciation is more of a bookkeeping entry than anything else, isn't it?

A. Yes, sir; it is to provide against the time when, in spite of all repairs, the cars will depreciate so that they will be valueless.

Q. In other words, those items do not represent an actual payment during the year?

A. No. sir; they do not.

Q. Will you now explain Table 8?

A. Table 8 is the division of the passenger expenses as determined upon Table No. 4, second double-column, inter and intra. The same general method has been followed in this case as in the Northern Pacific and M. & St. L. cases, and will be fully set forth upon the table which I have been asked to prepare and which has been referred to.

Q. What is Table No. 9?

A. Table No. 9 is to show the passenger movement for the year 1908, and should really have been headed Table No. 8, as some of the factors which appear on it are used in the division of Table No. 8. For another purpose, which will appear later on, I had had a table prepared which compared 1906 with 1908 traffic expenses, passenger, and I had this table practically recopied and use it here instead of preparing a new one for that purpose; that is the reason you will see upon the table so much detail in the division of this traffic showing the first-class passenger, second-class passenger, mileage book, round-trippers, excursions, commutations, total, of which there was reported as intrastate so much, and then the corrected intrastate, taken from Mr. Tilton's exhibit, and also shown on Mr. Ward's exhibit No. 53, showing the corrected amount of the passenger traffic which was truly intrastate. You will notice that I have left the year June 30, 1906, in here because, as I said, I had prepared this table for another purpose and used it in this connection.

Q. I call your attention to Great Northern Exhibit 38-Tilton, in which under the heading "showing result if same basis of rates effective May 1, 1907, in Minnesota, was applied on all traffic handled," and under the heading "Reduction" stating the amount as $1,163,118.72; state whether or not you have examined the records of the Great Northern Company with reference to that exhibit I have mentioned.

A. Yes, sir; I have.

Q. Will you explain how that amount is arrived at? ex-

plain that in your own way.

A. As I understand, the method of making up the table which is shown in Mr. Tilton's exhibit, is that having determined the loss upon each class of traffic by comparing the average passenger per mile rate in the first year with the average passenger per mile rate in the next year which showed when the reduced rates were in effect that the per passenger per mile loss was applied by Mr. Tilton to the entire amount of traffic which was carried as first-class, as second-class and as mileage books or wherever it would occur, to that class; which shows the result given in his statement, say, for the year 1908, his Exhibit 39, of $1,483,000. This shows a loss of $1,484,000 in round figures from what the receipts would have been had the basis prior to May 1, 1907, been in effect, and is, as I stated, calculated upon the passenger miles shown first-class, (mainly first-class,) in the year 1908 which is 82.8 per cent of the total traffic in the first-class, as will be seen by reference to my Table 9. The prior year, when they obtained the 2.837 rate on first-class, only 54.44 of the traffic was carried on first-class passenger rates. The loss has been taken upon the average first-class passengers and then calculated on the full amount carried in 1908, on the basis of the difference in passenger per mile, regardless of the fact that excursion rates and mileage books were not carried to the extent in 1908 that they were in 1906. In other words, by the withdrawal of excursion rates and by the withdrawal of the two-cent mileage privileges, the traffic of the first-class passenger at two cents a mile was increased about 85 per cent, and the calculation showing this loss makes no provision for this driving of the excursion business into the first-class, but takes the loss on the first-class at full rates and calculates it on the new mileage.

Q. Prior to the passage of the act of the legislature, making two cents the maximum passenger fare, were the passengers traveling upon the Great Northern road classified upon the

books of that Company?

A. Yes, sir.

Q. And who constituted the first-class passengers?

A. They are the passengers traveling on tickets which would be affected by the 2-cent rate; they are the ticket sales; it is shown by the heading here exactly what they would consist of, —first-class passenger, second-class, mileage books, round trips, excursions, commutation.

Q. Well, the first-class are those purchasing tickets at full rates at stations?

A. Yes, sir.

Q. In Minnesota. And, presumptively paying three cents a mile?

A. Yes, based on the three-cent rate.

Q. Now, of that class of passengers, what per cent did the revenue derived from that class of passengers amount to of the total passenger revenue, prior to the enforcement of the passenger-rate law?

A. In 1906 it amounted to 54.44 per cent, a little over one-half.

Q. And what percentage of the total passenger revenue was derived from "second-class"? That is all given on Table 9.

A. 10.58 per cent.

Q. And what proportion of revenue was derived from mileage books?

A. 8.68 per cent.

Q. Round-trip tickets?

A. 4.3 per cent.

Q. Passenger miles, excursions?

A. 19.8 per cent.

Q. Commutation tickets?

A. 2.2 per cent.

A. Now, if you assumed that the first-class paid three cents per mile, the result of reducing the rate to two cents per mile

would be to deduct one-third of the revenue obtained from first-class passengers as they were classed during the year 1906?

A. Yes, sir.

Q. In the year ending June 30 1908, the passenger-rate law was in operation, was it?

A. Yes, sir; in full operation.

Q. And 2 cents per mile was the maximum rate?

A. Yes, sir.

Q. The result was that the revenue derived from first-class passenger was what proportion of the total revenue in Minnesota?

A. 82.8 per cent.

Q. And from second-class?

A. 5.52 per cent.

Q. Mileage books?

A. 2.84 per cent.

Q. Round trip tickets.

A. 3.85 per cent.

Q. Excursions?

A. 3.3 per cent.

Q. Commutation?

A. 1.69 per cent.

Q. Do I understand that the loss claimed in Ex. 39-Tilton is by assuming that the same percentage of loss occurred upon 82 per cent of the entire revenue now found to be first-class as you would have upon the original first-class revenue which was only 54 per cent?

A. Yes, sir. I have not got the table here to file, but I would say that the average charge in 1906 for first-class passengers was 2.8374 cents per mile; that in 1908 the average receipt per passenger mile for first-class was 2.0234 cents, the difference being about eight-tenths of one cent. If you will then multiply 152,683,104 passenger miles by this .8 of a cent, you will see that it approximates, to a certain degree, the loss which

Mr. Tilton has stated upon his Ex. 39, showing that that is the way by which he arrived at this result.

Q. Now, in each of the years, only those who paid the full rate are considered first-class?

A. Yes, sir.

Q. And if we add to the 54.44 per cent, which was the percentage the revenue from first-class bore to the total revenue in 1906, the difference in the percentages which the lower classs bore to the total revenue and the percentages which the lower classes bore to the total revenue in 1908, we will have exactly the percentage of first-class given for the year 1908, to-wit: 82.80?

A. Yes, sir.

Q. So that, in preparing Ex. 39, it was assumed that the same percentage of reduction would occur in what was the first-class of 1908 as would have occurred from the first-class of 1906?

A. Yes, sir; that that reduction would apply to the total first-class passenger miles in 1908?

Q. Although, as a matter of fact, the rate received from each class below the first-class did not exceed the revenue allowed by law?

A. No, sir; it did not. An illustration of that would be that the average receipt per passenger for Minnesota in 1906 was 2.348 cents. That, I think, is shown in Mr. Ward's Ex. 53; I am not sure, but could be readily determined by the division of the number of passenger miles into the revenue, and I have so determined it, and it agrees with the statement on the Great Northern books. Before the year ending June 30, 1908, the average rate per passenger per mile in Minnesota was 1.9739 cents, a difference between the year 1906 and 1908 of .3747 cents per passenger mile. If we apply this loss to the entire passenger miles of 1908, viz., 184,395,509 as shown on Table No. 9 and the Great Northern records, we could only

figure a loss of $690,931.97, which would be the greatest possible loss that could, under any circumstances, accrue to the Great Northern Road, and would be calculated upon the entire business of the road, interstate and intrastate.

The MASTER: As against how much made by Tilton?

WITNESS: $1,484,000 in round figures.

Q. Now, will you please compute what you have designated the loss upon the intrastate passenger miles which I see on Table 9 are given as 92,053,657? If I am wrong in this, you can correct me, but you have taken the total passenger miles in Minnesota and you have estimated that the loss was how much per passenger mile, some fraction of a cent?

A. Taking Mr. Tilton's Ex. 39 as showing the correct amount of intra and interstate passengers (and I believe it appears on his exhibit also; if it does not, it appears on Mr. Ward's Ex. 53) giving the earnings for intrastate passengers of $1,750,522.02, and giving the passenger miles, intrastate, 92,053,657. Dividing those passenger miles into the earnings, it gives us as the intrastate average rate per passenger per mile in 1908 1.9015 cents. Applying the same figures to the prior year under consideration, 1906, when the rates were not in effect and the three-cent rate was in effect, we have an average of intrastate of 2.3301 cents. The difference between these two gives us .4385 of a cent. Multiplying our 92,053,657 passenger miles by this, it gives us a total loss for intrastate of $413,655.28 as against a loss shown on Mr. Tilton's Ex. 39 of $794,591. The actual loss sustained is reflected by the passenger revenue for the two years; the passenger revenue 1906, total, being $3,666,098.79. For 1908 the total revenue was $3,640,627.45, showing a loss in total revenue for the year 1908 of $25,471.28. That was the total loss in revenue. In addition to that, the road carried 28,300,801 more passenger miles in 1908 than it did in 1906, therefore, accrued this actual loss in money of $25,000 and, supposing that it all accrued upon the intrastate

business, we would add the absolute cost of carrying 28,300,801 passenger miles. We find from reference to our Table No. 12, that the cost of carrying a passenger was in the neighborhood of 63 per cent of the earnings. The earnings are shown as being 2.0234 cents. 63 per cent of that gives the cost of carrying a passenger as 1.275 cents per mile. Multiplying 28,300,801 passenger miles by that, gives us a cost to carry these extra passengers of $360,835.21, to which, if we add the $25,471.28 actual loss in revenue, gives us a total loss for the state of Minnesota of $386,306.49, and in this computation we assume that these extra 28 million passenger miles were a tax upon the carrying capacity of the road and its entire service department equal to each of the preceding miles which had been made before in 1906. As we well know, you can add several million passenger miles to the traffic without particularly interfering with the expenses, but allowing that would giving us a total loss of $386,306.49 actual expenses and loss in total traffic.

Q. Now, is this last computation confined exclusively to intra passenger business?

A. No, sir; it is the entire business of the state.

Q. Now, as shown upon Table 9, 49.92 per cent of this entire passenger traffic in Minnesota was intra?

A. Yes, sir.

Q. So that it would be fair, would it not, to assume that 49.92 per cent of what you have given as the total loss or reduction, should be charged to intrastate business?

A. No, sir; I should say not that much, for the reason that the principal reduction in rates was shown upon our intrastate business and not on the inter. I could readily compute that, but I would not like to say that of that loss that I show only 49.9 per cent was chargeable to intra.

Q. Yes, I think that is right. The interstate rates averaged somewhat lower prior to the passage of the act than the intrastate rates?

A. Yes, sir.

Q. So a larger proportion of the reduction would be from the intrastate business?

A. Yes, sir. I would say that it was for the purpose of this explanation, which I have just gone into, that I had prepared this table originally, and I had made some excerptations on this table when it was blue-printed, and that I had supposed that I would file the full table, showing earnings as well as the ton miles and so on, and that is where those blanks appear, where the earnings were in the other total which I have had printed with the full amount on, and I stated when I filed this table that I had filed it in this form because it was for a purpose that would appear hereafter, and not having that with me to file or being called on to file it, I have made that statement in reference to a table which does not appear.

Q. Well, you say you have a table corresponding to Table 9, excepting that those blanks are filled out?

A. Yes, sir; and shows the earnings right along in each class of traffic.

Q. Have you it with you?

A. I have it on the desk at the office; I thought I had a copy. I did not expect to be called on to produce it. I will have it with me the next time I am here.

Adjourned until Tuesday, August 31, at 10 o'clock A. M.

Federal building, St. Paul, Minnesota, Tuesday, August 31, 1909. The hearing was resumed at 10 o'clock a. m.

CONWAY W. HILLMAN,

recalled on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. Have you the table with you which you stated yesterday afternoon was the original table from which Table 9 of Ex. G was prepared?

A. Yes, sir; I have the table.

Q. Produce it, please.

Table produced, entitled "Comparative Statement of Passenger Traffic years ending June 30, 1906, and June 30, 1908, showing changes in classes of traffic and in rates per passenger per mile by introduction of 2-cent rate, taken from Great Northern records (including Willmar & Sioux Falls Railway), marked "Defendants' Ex. H-Hillman," and offered in evidence.

Q. Ex. H-Hillman corresponds with Table 9 of Ex. G, except that it contains certain additional information?

A. Yes, sir; which is the earnings of each class for each year, together with the per passenger mile.

Q. Now, I will ask you one question which, as I understand it, will illustrate what you claim is shown by this exhibit as well as Table 9 of Ex. G. In 1906 the first-class earnings amounted to $2,410,926.18?

A. Yes, sir.

Q. And the passenger miles 84,975,413?

A. Yes, sir.

Q. Which constituted 54.44 per cent of the total passenger miles in Minnesota?

A. Yes, sir.

Q. The second-class earnings during the same year were $294,664.88?

A. Yes, sir.

Q. In 1908, by reason of the operation of the 2-cent fare, the second-class earnings amounted only to $197,360.48?

A. Yes, sir.

Q. And so on, as to each of the classes after the first, the earnings attributed to such class materially decreased?

A. Yes, sir.

Q. But when we turn to the first-class we find that there the earnings increased from $2 410,926.18 to $3,090,053.31?

A. Yes, sir.

Q. Now, take, for instance, excursions in the year 1906, the revenue from excursion tickets was 19.80 per cent of the total revenue from passenger business.

A. The passenger miles was that per cent.

Q. The passenger miles?

A. Yes, sir.

Q. While in 1908 the passenger miles were 3.30 per cent?

A. Yes, sir; of the total business.

The MASTER: In the state?

WITNESS: In the state; yes, sir.

Mr. O'BRIEN: The total business in the state.

Q. Now, I do not, myself, understand your percentage of earnings, Mr. Hillman.

A. Those earnings are per passenger mile; the figure under the earnings represents how many cents per passenger mile was earned by each class of traffic. It is not a percentage of the business but the per passenger mile.

Q. Well, it is not a per cent at all, it is an average rate?

A. An average rate; yes, sir.

Q. Per passenger mile?

A. Yes, sir; the third line.

The MASTER: That "per cent" should be stricken out?

Attorney General YOUNG: It is not per cent, it is "cent." It is the letter "c" with a line through it.

The MASTER: It means cents?

WITNESS: Yes, sir; it is a sign from the machine that we use which indicates the cents. I see now, in looking at it closely, that it may be taken for a percentage mark. It is not.

Q. I thought it was a percentage mark, and I wasn't able to understand it.

A. It is the mark of the machine indicating cents the same as they have one for the dollar-sign.

The MASTER: The per cent is omitted when you come to the passenger miles?

WITNESS: Yes, sir; for the reason that in the second line of the reading matter I have per cent of total traffic and I did not repeat the sign. I note one thing here that has been left off; in the reading matter it says "rate was in effect during the year." It should read "3-cent rate was in effect during the year ending June 30, 1906; 2-cent rate was in effect during the year ending June 30, 1908."

By Attorney General YOUNG:

Q. Mr. Hillman, the reason why the percentage of the business in the classes below first-class diminished in 1908 under the percentage in those various classes in 1906, arose from the fact that after the adoption of the 2-cent fare law the second-class rates were abolished practically, except on the interstate travel; mileage-books could not be obtained at a less price than the regular first-class rate, no reduction could be gained by purchasing a round-trip ticket, excursions were practically abandoned and a policy adopted by the railway companies requiring all passengers to pay the full 2-cent rate?

A. That is my understanding of the matter. I could not say as to whether the second-class privileges had been withdrawn or not, but they were certainly curtailed to a certain extent. The mileage-books had been sold theretofore at 2½ cents, some of them at 2½ and some at 2 cents. Of course, upon the introduction of the 2-cent passenger rate, there would be no more mileage-books sold at 2½ cents, but the mileage-books would still be continued to be sold at 2 cents.

Q. There would be no advantage in having a mileage-book?

A. None whatever.

Q. The fact that the percentage of travel belonging in the first-class increased from 84,975 413 passenger miles in 1906 to 152,683,104 passenger miles in 1908 and that the percentage of the business in the first-class in 1906, being 54.44 per cent of the total business, increased to the per cent of 82.80 in 1908,

shows that the travel that in 1906 had belonged to the lower classes, had been turned into the first-class?

A. Yes, sir.

Q. Therefore, in attempting to compute any loss in revenue in the 1908 business by reason of the 2 cents fare law it would be absolutely unfair, on the face of the returns, would it not, to take the passenger miles belonging under the head of first-class in 1908 as the basis for computing that diminution in revenue?

A. Yes, sir. It would necessary, in order to make a comparison, to raise 1906 to the 82.80 per cent by transferring from each of the following classes the amount of passenger miles at the rate which was charged for them in 1908 to, first, the passenger-mile column and, next, to the earning column. If that were done, instead of 84,975,413, it would give us 129,246,309 passenger miles carried for $3,196,239.69, or an average rate per passenger per mile, first-class, on the basis of the 1908 travel, of 2.473 cents, which would show a loss per passenger per mile on the first-class of .4496 of a cent. Of course it could be worked, if desired, by reducing 1908 to the 1906 basis, it would show the same results either way.

Q. But, in view of the entire disarrangement of the classes, resulting from the adoption of the 2-cent fare law, there is no other fair way of attempting to ascertain the diminution in revenue than by taking the total passenger revenue of 1906 and comparing it with the total passenger revenue of 1908 and making due allowance, if necessary, for the increased cost, if any, of carrying the increased number of passengers in 1908?

A. That is as I consider, the fairest method, sir, (the last one I mentioned in my testimony in the afternoon,) where we take the absolute loss in the revenue and then compute the cost of carrying so many more passengers at our passenger operating percentage.

By Mr. O'BRIEN:

Q. Now, Mr. Hillman, if you will pass to Table 10.

A. Table No. 10 shows the losses due to the reductions under the prescribed rates.

Q. Is that freight and passenger, or freight alone?

A. Freight only, sir. Division "A" shows the loss on class rates under the Commission's order, the rates being already in effect in the railroad reports of earnings. I examined $243,487.88 par of way-bills, and the losses on that amounted to $41,010.57—16.85 per cent. If these class rates—this freight—had been charged at the old rate, the receipts would have amounted to $284,497.45. Division "B" shows the loss on commodity rates, legislative action, rates not in effect in railroad reports of earnings. The total amount of the way-bills examined was $268,173.11. The losses accrued were $23,656.13, or a rate of 8.821 per cent. The total way-bills examined amounted to $511,660.99. Note, that for the purpose of determining the amount to be deducted from the earnings reported by the Railway Company, only the "B" loss of $23,656.13 is to be considered, which amounts to 4.6234 per cent of the business examined. Now, applying this 4.6234 per cent to the total business for the year, as shown by the Railway Company's reports, gives a yearly loss of $129,852.53. I have put a foot-note there that the loss, potential and actual, would have amounted to 10.684 per cent. I mean by that that, had the full rates been in effect, both on class rates and on commodity rates, the combined effect of the Commissioners' order and the legislative action, would have been to reduce this earning 10.684 per cent.

By Attorney General YOUNG:

Q. By that you mean that, on the volume of business done, that much less money would have been received under the reduced rates than under the old rates?

A. Yes, sir.

Q. You make no comparison, do you, between the actual revenue received for the year for which you made the examination and for any previous year or period, to see whether in fact the gross revenue of the Company from that class of business was reduced or would be reduced?

A. I did not make that computation, sir.

By Mr. O'BRIEN:

Q. The losses, as claimed by the Great Northern Railway Company, both from merchandise and on commodities, I think are shown in Ex. 21-Parker, are they not, with the exception of the losses claimed on interline intrastate business; as I understand it, however, the entire loss upon intrastate business claimed in this case is shown on Ex. 22-Parker?

A. Yes, sir.

Mr. O'BRIEN: Are you familiar with these exhibits, Mr. Butler?

Mr. BUTLER: Well, I was once.

Mr. O'BRIEN: Well, can you come here and look at them and see if your final column for intrastate business is shown in Ex. 22?

Mr. BUTLER: I haven't looked at them for some time. I think Ex. 22 covers the commodities.

Mr. O'BRIEN: Well, it covers the merchandise also, Mr. Butler?

Mr. BUTLER: Yes, I think so, as defined in the caption, the commodities mentioned below; it speaks of merchandise as one commodity.

Q. I call your attention to Division A of Table 10. On the line marked "Losses" upon that table, I find the total amount as extended is $41,010.57. What does that amount represent?

A. It represents the amount of loss which accrued on the total of the way-bills examined for the months of October, 1907, and April, 1908, on class rates.

Q. That is the reduction which was caused in the revenue for those two months from freight receipts upon classified merchandise by the operation of the Commission's order of September 6, 1906?

A. Yes, sir.

Q. And that would amount to how much for the year from that same cause, or have you estimated that?

A. I don't know; I have no division of the amount of traffic for the year moving under the class rates as against the commodity rates.

Q. Well, have you the total revenue for the year from that source?

A. Yes, sir.

Q. From that class of freight?

A. Not from that class of freight; no, sir.

Mr. O'BRIEN: In Ex. 22-Parker I find the total loss from that cause claimed for the year ending June 30, 1908, to be $178,978.96. If the Master will look at the heading I think he will see that this exhibit gives the total losses on freight, and I understand that Mr. Butler understands it the same way.

Q. Now, from what you have said with regard to Division A, Table 10, Mr. Hillman, I take it that what I have given from the statement contained on Ex. 32-Parker could not be considered to be an excessive statement; if the loss was $41,000 in two months, the loss for the entire year of $178,000 seems reasonable to me.

A. Following the rather higher percentage shown by the two months in question over the usual monthly receipts, I should say that my loss would reflect in the neighborhood of $200,000, for the whole year, and I do not think that Mr. Parker's exhibit is at all excessive.

Q. Now, Division B of Table 10 shows a loss for the two months of $23,656.13—

A. Yes, sir.

Q. —that would have occurred if the commodity rates during that time fixed by Chapter 232 had been in operation?

A. Yes, sir.

Q. And you state the loss for the year from that cause to be $129,852.53?

A. Yes, sir.

Q. That amount is given, on Parker's Ex. 22, as $87,261.43?

A. Yes, sir.

Q. Will you now proceed to Table 11 and explain that?

A. Table 11 represents the earnings and operating expenses, freight, plus the income account of items which you might say are dependent upon the operations.

Q. Was thre any such table as that in Ex. 3-M in the Northern Pacific case?

A. This table is the condensing of three tables, if I recollect correctly, in the Northern Pacific matter; and, while the result was shown practically in Ex. 3-M, the details have all been condensed here upon this one Table 11; it follows the same plan.

Q. Well, go on and explain it.

A. The total ton miles for the year were 2,123,744,733. This is shown in Ex. 53-Ward and also in Ex. G-Hillman, Table No. 3-B. We find from Table No. 5 that 7.484 per cent of the total traffic was intra. Taking 7.484 per cent of the total traffic, we have an intrastate tonnage for the year of 158 303,933 and interstate traffic of 1,965,440,800 ton miles. The intrastate freight revenue, average per ton per mile, figures 1.7493 cents.

Q. Where did you get that?

A. I have taken the number of tons of freight which I examined in order to produce the $511,660.99, shown in Table 10, and have multiplied that by the average haul of intrastate stuff in Minnesota in order to obtain the ton miles in Minnesota. I have then divided the ton miles into that revenue and produce an average rate per ton per mile for intrastate revenue of 1.7493 cents.

The MASTER: That is cents? It is marked per cent, is it not?

WITNESS: Yes, sir; that is cents. In finding this average. I have used the higher average haul furnished by Mr. Ward on his Ex. 53, 113.3 miles. My average haul for this stuff, as shown upon the sub-papers of Table No. 5 of this exhibit, was 106.85 miles. I have allowed this extra distance haul as shown in Mr. Ward's exhibit over mine (which was the average for two months) to the contention of the Railway Company and have used his average haul instead of my own. We did not keep on our records the ton miles of each shipment. We had our average ton miles, and we kept our tons. I have momentarily mislaid the paper which showed those tons, but I will state them from memory, with the privilege of correcting them when I see the papers—258 011. Multiplying those tons by the 113.3 average haul, gives us a figure of 28,672,000 miles. (I state this with the privilege of correcting it when I lay my hands on that slip which has inadvertently been mislaid.) Dividing these ton miles into the revenue given on Table 10, of $511,660.99, gives me the average rate per ton per mile as shown on the second line of Table No. 11. Multiplying the intrastate ton miles by this figure gives us a freight revenue, intra, of $2,769,210.50, as shown in the second line of Table No. 11. The total for the state freight revenue being fixed and shown in the third column of this second line, we deduct the amount of intra from the total, which gives us the interstate freight of $12,889,450.57.

Q. As against, as shown in Ex. 53-Ward, for intrastate revenue $2 366,359.02, and interstate revenue in Minnesota, $13,-292,302.05; total in Minnesota $15,658,661.07?

A. Yes, sir.

The MASTER: The totals are not the same?

WITNESS: The total of the two businesses is the same but the division between inter and intra is different.

Q. Now, I want to go over that computation with you once

more. The total number of ton miles of intrastate freight is given upon the first line of Table No. 11?

A. Yes, sir.

Q. And is arrived at by taking 7.484 per cent of the total ton miles in Minnesota?

A. Yes, sir.

Q. The total ton miles in Minnesota being undisputed and shown on the third column of Table 11?

A. Yes, sir.

Q. So that you then have a total of 158,303,933 ton miles of intrastate freight in Minnesota?

A. Yes, sir.

Q. You examined the way-bills for October and April, as you have already described?

A. Yes, sir.

Q. And ascertained the total tons for those months?

A. The total tons; yes, sir.

Q. As computed by you, the average haul of intrastate freight was about 106 miles in Minnesota?

A. 106.85.

Q. You also had, from your examination of the way-bills, the total revenue for the months of April and October, that I have mentioned?

A. Yes, sir.

Q. By multiplying the total tons by the average haul you would obtain the total ton miles for those two months?

A. Yes, sir.

Q. And dividing the total ton miles into the total revenue would give you the average receipt or earning per ton per mile?

A. Yes, sir.

Q. The longer the average haul, or, in other words, the larger the multiple which you would use for the purpose of ascertaining the total ton miles, the greater the number of ton miles, of course, would be, and consequently the lower the aver-

age rate of earning would be?

A. Per ton per mile; yes, sir.

Q. Per ton per mile. And in making this computation you accepted the statement appearing on Ex. 53-Ward giving the average haul of 113 miles rather than the average haul as you found it of 106.85?

A. Yes. sir.

Q. Carrying out the computation in that way you ascertained that the average earning per ton per mile during the two months of which I have spoken was one cent and .7493 of a cent?

A. Yes, sir.

Q. Or. to express it in decimals, 1.7493 cents?

A. Yes, sir.

Q. What is the average earning per ton per mile stated in Ex. 53-Ward?

A. 1.381 cents for intrastate.

Q. Having thus ascertained the earnings per ton per mile for the period mentioned, you applied it to the total ton miles in Minnesota for the year?

A. Yes, sir; as shown in the first line of this Table 11.

Q. Giving you your claim as to the total intrastate earnings in Minnesota for the year $2,769,210.50—

A. Yes, sir.

Q. —shown in the first column of the second line of Table 11?

A. Yes.

Q. In making that computation, Mr. Hillman, as finally stated in your last answer, you used the average earning per ton per mile as ascertained by you, to-wit: 1.7493 cents, and not the average earning stated in Ex. 53-Ward?

A. Yes, sir; I used the average earning per ton per mile established by me.

Q. Now, for the convenience of the Master, state whether

or not the difference in the total earnings from intrastate business as given by you on Table 11 that results from that difference in the earning per ton per mile, in other words, just take your total ton miles as contained in Table 11 and ascertain what the earnings would have been from that number of miles, using the rate per mile given in Ex. 53-Ward.

A. If we would take the number of ton miles shown by me on the first line of Table No. 11 and multiply them by the average rate per ton per mile shown by Mr. Ward in his Ex. 53 it would give us a result of $2,186,177.31. You will note that in his exhibit this 1.381 ,cents per ton mile is based upon 171,317,766 ton miles carried in Minnesota.

Mr. BUTLER: As against your what?

WITNESS: 158,303,933.

The MASTER: You are talking of intra now?

WITNESS: Intra; yes, sir.

Q. So that it would not be proper to take the earnings per mile derived in Ex. 53-Ward from a larger tonnage and apply it to the smaller tonnage ascertained by you for the purpose of making a comparison?

A. No, sir.

Q. That comparison should be made upon each basis complete in itself?

A. Yes, sir.

Mr. BUTLER: How many dollars do you increase the revenue? Have you that figure before you?

WITNESS: $402,751.48.

Q. Now, if you will go on with Table 11.

A. Next we come to the switching items of switching revenue. The annual report to the State shows the switching revenue to be $163,498.21. I have assigned this to inter and intra on the basis of the tons carloads, as shown upon table No. 5, which assigns 9.27 per cent to intra, giving me $15,156.28 intra and $148,341.93 inter.

The next is the switching of the Minneapolis & Western Railway which is a separate item upon their report to the state. they controlling this company entirely, and its tonnages being all reported in with the Great Northern business and its expenses having been included in the expenses as set forth by the Great Northern Railway on its first exhibit and on my Table No. 4. We divide this upon the same percentage as the switching on other portions of the Great Northern System and obtain the result of $4,395.80 intra and $43,023.92 inter.

The next is special train service, which is allocated by the Railway Company. Perhaps it would be well for me to say here that these items are taken from pages 45 and 45-A in the annual report.

The other transportation revenue is allocated by the Railway Company.

The MASTER: Both of these items accepted?

WITNESS: Both items accepted; yes, sir. The storage and freight amounts to $1,011.22, and is divided on the less than carload percentage as shown upon Table No. 5, which assigns 36.9 per cent to intrastate. The car service is divided upon the equated ton mileage which assigns 13.744 per cent to intra. This equated ton mileage will be shown upon the tables which I have been requested to make of the division between inter and intra and to file later on showing the method of division of expenses.

The telegraph service is divided upon the basis of the tons, assigning ten per cent to intrastate. I would say, right here, if you will allow me to go back, that storage freight on l. c. l. "Table No." should have a "5" inserted there and a "per cent" put in after "36.9."

Rentals of buildings and other property were divided upon the ratio of the expenses inter and intra, which assign 12.359 to intra.

Miscellaneous transportation revenue was divided upon the

same basis, assigning 12.359 per cent to intra. This made a total, summing these items, of intra, $2,808,594.02; inter, $13,128,454.99; and a total earning of $15,937,049.01. We now deduct from the intra the losses as shown upon Table No. 10, amounting to $129,852.53. We deduct the same amount from the total revenue. We then have a net earning result (losses out) of $2,678,741.49 intra; $13,128,454.99 inter; and a total of $15,807,196.48.

We now turn to Table No. 7 (I see that has been omitted there) and find the operating expenses for intra were $1,121,557.50.

Q. "7" ought to be inserted, ought it?

A. Yes, sir. For inter, $7,953,492.45; total $9,075,049.95. This gives an operating percentage for intra of 41.81 for freight, and of interstate freight 60.58 per cent; of the total freight, 57.41 per cent. By subtracting the expenses from the net earnings with the losses out, it gives us a net earning of $1,557,183.99 for intra, $5,174,962.54 inter, and a total of $6,732,146.53. We now deduct four per cent for taxes, which is on the gross earnings, which gives us $107,149.66 to be deducted from intra net; $525,138.19 to be deducted from inter net, and $632,287.85 to be deducted from the total net. The net, above taxes and expenses, then amounts to, intra, $1,450,034.33; inter, $4,649,824.35; total, $6,099,858.68.

We now come to Division B.

Q. Before you get to Division B, you give a total net earning from freight in Minnesota of $6,099,858.68?

A. Yes, sir.

Q. On page 4 of Ex. 53-Ward, the net earnings are given at $8,464,493.40?

A. Yes, sir. From those figures shown by Mr. Ward he has not excerpted the taxes, if you will remember, which amount to $632,287.85.

Q. Taxes on 15 millions?

A. 15 millions. Those figures there should be compared with the third line from the bottom of Division A of Table 11, $6,732,146.53; and, as I notice by looking at that, that is not the freight earning that you have quoted, it is the freight and passenger earning together.

Q. That is true. That is the freight and passenger earning, but Ex. 53 purports to show a net loss of $29,000 on passenger business and Mr. Ward's testimony was that there was no profit on intrastate business?

A. Yes, sir.

Q. So that it really amounts to the conclusion arrived at by accepting Ex. 53-Ward with reference to the net earning on interstate freight?

A. Yes, sir. I mentioned that in order that the discrepancy could readily be accounted for by the fact that Mr. Ward showed no profit whatever on the passenger business.

Q. This result in Ex. 53-Ward is obtained by placing all of the net earnings from interstate freight?

A. Yes, sir; I so understood his testimony.

Q. Now, I think it better to follow this table, Mr. Hillman, rather than stop now to show what would be the total result of considering your claim as to passenger and freight earnings; so go on with Table 11.

A. We now come to Division B.

Q. The statement I made is true, is it not, that, with the exception of taxes,—

A. And the losses.

Q. Ex. 53-Ward shows the net earnings to be $8,464,493.40, which, under Mr. Ward's testimony, must all be credited to interstate freight, while you show the total net freight earnings to be $6,099.858.68?

A. After deducting taxes.

Q. After deducting taxes.

A. The figure which would compare with Mr. Ward's would

be $6,732,146.53, plus the $129,852.53 loss which Mr. Ward has not taken into account.

Q. Now, go on with Table No. 11, the next item.

A. The next division is "B," income account on items which are dependent upon operation. The credits to income, rent from leases of road and property, (pages 39 and 69 of the annual report to the State,) we have a total of $30,112.15. We have assigned the rental of these properties upon the same basis that the expenses of maintaining these properties were shown in the report of our expenses, which will be shown in detail on the paper to which I have referred, and this assigns 13.0927 per cent to intrastate. The joint facilities proportion (from the same page of the annual report,) shows $218,427.23 in total. This is also assigned upon the basis above mentioned of 13.0927, and produces a credit to intrastate of $28 598.02. We have miscellaneous rentals, freight, for Minnesota, (as shown on pages 39 and 71 of the annual report to the State) of $31,237.44. Dividing these upon the basis of expenses inter and intra, the expense of maintaining these properties from which these miscellaneous receipts and rentals were derived, would naturally follow the expense basis total inter and intra that assigns 12.359 per cent to intra. This gives us a total credit to income of intra, $36,401.20, to inter, of $243,375.62, and a total to the entire account of freight for the state, of $279,776.82.

The debits to income (which are shown on page 41 of the annual report) amount to $28,811.15. Of this we assign on the basis of expenses, 12.359 per cent to intra. which gives us $3,560.77 debit to income intra; $25,250.38 debit to income inter, and $28,811.15 debit to income total. Subtracting these from the above credits, we have a net income for accounts allied to operating expenses, of $32,840.43 intra, $218,125.24 inter, and $250,965.67 total. From these we deduct four per cent taxes, which gives us a net over taxes of $31,384.39 intra, $208,390.22 inter, and a total of $239.774.61 for the total. Adding the net

result of A and B together, gives us a total freight income of intra, $1,481,418.72; of inter, $4,858,214.57, and a total of $6,339,633.29.

Q. Those totals do not appear on Table 11?

A. I have it on Table 11, but it had not been typed there, and I have inserted it, (I thought,) in all my copies. They will be shown in Table 13.

Mr. O'BRIEN: Do those totals appear on your Table 11, Mr. Butler?

Mr. BUTLER: No.

Mr. O'BRIEN: They don't appear on mine.

(The totals were accordingly inserted in the copies of counsel.)

Q. Now, Mr. Hillman, will you take up Table 12?

A. Table No. 12 shows the passenger earnings and operating expenses, net revenue in Division A, and, in Division B, income account for the items dependent upon operation; in other words, a passenger table on the same basis as Table 11 as a freight table. We have the passenger revenue, which we have taken from Mr. Ward's Ex. 53, where this has been worked out carefully, showing inter, intra and total. The excess baggage is taken from the report to the State (on pages 45 and 45-A,) and is allocated by the Railroad Company and their allocation accepted. The mail revenue is reported to the State on pages 45 and 45-A, and is divided upon the expense basis, which assigns 51.694 per cent to intra.

Q. How is that mail revenue reported to the State? Read the entry in the report.

A. Mail revenue intra $86,512.82; inter, $298,087.23.

Q. In the case of the Northern Pacific it was all reported as intra?

A. As an intra earning; yes, sir.

Q. The Great Northern has divided that, in its report to the State?

A. Yes, sir.

Q. Is this division which you have made here the same as the division which you made in the case of the Northern Pacific?

A. Yes, sir.

Q. That is, I mean on the same basis.

A. On the same basis.

Q. On the basis of the expenses?

A. Of the expenses, on the basis that the carrying of it was reflected by the expenses and each was entitled to the amount of earning which their expenses would reflect, as there was no other way of dividing the earnings on a mail route and telling how much was on a car which belonged to the State and how much was interstate mail.

Q. The next item is the express revenue, (report to the state, page 45 and 45-A,) and the allocation therein shown accepted by me. The other passenger revenue to the State, shown on page 45, allocation accepted. Station and train privileges, (page 45, report to the State,) divided inter and intra upon the expense basis.

Q. How is that item reported to the State?

A. It is reported to the State allocated; and I didn't notice before, that it is evidently done on about the same basis as the allocation to the State is. $3,453.87, which is a very close approximation to the amount that they have put here.

Q. Well, by "that they have put here," what do you mean?

A. I mean by a close approximation to the amount that I have used here.

Q. Well, let us find out about that. That item is marked "allocated" upon the report to the State, did you say?

Mr. BUTLER: What is the entry?

Q. Read the entry.

A. Station and train privileges, 45-A, state, $3,453.87; balance, intra, $3,729.73.

Q. That is on page 45-A, that last entry?

A. Yes, sir.

Q. Well, is there any mark of allocation on the report?

A. No, sir. I have divided that on the expense basis.

Mr. DURMENT: He said state and "intra"; what did he mean?

WITNESS: State, $3,453.87; balance, inter, $3,729.73.

Q. Go on, Mr. Hillman.

A. The next item is receipts from the parcel-room, which is div'ded upon the number of passengers, or 78.36 intra. If you will excuse me a minute, I see that this is omitted, although I think the totals are correct. I will say I did not examine this personally and it was delegated to other parties. I will fill these figures in on the reports. It assigns $2,585.14 to inter and $9,361.01 to intra; the total parcel-room receipts of $11,946.15. The totals are correct, it was merely an omission of that.

Q. Now, just put those figures in all these copies, will you?

A. Yes, sir.

Witness inserted the divisions given in the last answer.

WITNESS: (Continuing.) The next item is baggage storage, (page 45 annual report to the State). It is allowed by the Railway Company as an intrastate item. I have allowed the entire amount to interstate, in default of other basis, on the basis that the storage would practically be on long-haul stuff and interstate. It is a case where, as I said, I frequently have, in cases of doubt, turned it over to the interstate business.

Telegraph (page 45). I see it is marked "Montana's" exhibit; (that is Martin's exhibit.) This account ($176.84) is assigned to inter and intra on the basis of the expenses, 51.694 per cent to intra; the rents of other property and the miscellaneous earnings on the same page are assigned in the same way. I have lumped these two in making the division, not made them separately, but have used them as one item. The total passenger earnings are then shown in inter, intra and total; the total passenger expenses as per Table No. 8—

Q. That figure "8" should be inserted.

Witness inserts figure "8" in the copies.

A. —shows an inter expense of $1,321,838.85; an intra expense of $1,414,525.56, and total expense of $2,736,364.41; which gives us net receipts from passenger operations of $909,691.10 inter, $692,803.53 intra, and, from all passenger business, of $1,602,494.63. From this we deduct four per cent taxes, which gives us net passenger over operating per cent and taxes, inter, of $820,429.90; intra, of $608,510.37; and all business of $1,425,940.27.

We now come to Division B of this table, which shows the credits and debits to income for items which are closely allied or dependent upon operation.

Q. Just give the total credit, please.

A. The total credit; inter, $89,807.87; intra, $96,143.91; total, $185,951.78.

The debits to income amount to inter, $13,543.17; intra, $14,493.03; total, $28,036.50. We subtract these debits from the credits, which gives the items shown in the fourth from the last line on this exhibit, inter and intra and total. From this we deduct four per cent for taxes and then add the total of the last remainder to the total of Division A, which gives us the totals found in the last line of Table No. 12, $893,102.29 inter, $686,315.49 intra, and a total of $1,579,417.78.

Q. Those being the total net passenger earnings after deducting all operating expenses and taxes?

A. Yes, sir.

We now come to Table No. 13 which is the miscellaneous income; and also at the bottom we have placed a summary of these three tables, (page 39 annual report to the State). In the first place, I would state that under the head of Minnesota there, is the percentage that accrues to Minnesota upon the expense basis. That is, the Minnesota expenses are 46.22 per cent of the total expenses. The intra shows 27.52 of Minnesota and the inter 72.48 of Minnesota.

We now find (from page 39 of the annual report) that the dividend declared on stocks owned by the Company was $4,353,809.22. Of that $4,304.520 was the dividend declared on the Burlington stock to offset the interest on the Burlington bonds, and therefore is not considered in this, because it would be taken as part of the interest charges when they are considered, and, as the dividends and the interest offset one another, we let that transaction remain entirely out of our computation. That will make the net amount that they received as dividends on stocks owned outside of the Burlington matter, $49,289.22. The interest on the funded debt which they own was $125,435. The interest on other securities, loans, etc., amounted to $2,176,474.41. The interest on balances amounted to $18,085.13; a total credit to income of $2,369,283.76; from which are to be deducted the debits to income of the leasehold (on pages 41 and 75 of the annual report) which show two payments of interest and dividends, one on the St. Paul, Minneapolis & Manitoba road and the other on the Duluth, Superior & Western Terminal Company. The St. Paul, Minneapolis & Manitoba, being in the nature of the payment for the lease of that road and being an account which corresponds to the interest account which they would pay on securities, is omitted from this account. It is in the nature of a fixed charge, under the terms of the lease, and now that matter has been all taken into one company, so it is omitted.

The loss on separately operated properties amounts to $154,097.76; the interest on subscriptions to stock amounts to $2,038.427.17. You will note that the interest on other securities, loans, etc., above mentioned amounted to $2,170,000; evidently that while paying interest on the stock to stockholders who had paid in they at the same time were drawing interest on the balances in bank, and that therefore it is a proper deduction from income. This makes the total deductions from income $2,212,524.93, and a net credit to income of $156,758.83. Dividing

this on the net-earning basis as given above, we have assignable to Minnesota, $72,453.93; and of this amount we assign to intrastate $19,939.32, and to interstate $52,514.61. We then summarize tables 11, 12, and 13, and obtain the results shown in the last line of this statement of the total business in Minnesota, a profit of $7,991,505, of which $2,187,673.53 is intra and $5,803,831.47 is inter.

Q. Now, from that total net earning there has been deducted the taxes?

A. Yes, sir.

Q. Will you please state the entire amount of taxes so deducted from that?

A. Yes, sir; $824,470.34.

Q. Now, please add those taxes to the total net revenue shown upon Table 13 of $7,991,505. What is the result?

A. $8,815,975.34.

Q. Will you deduct from that amount the amount which you have credited on account of general earnings, miscellaneous and income account; reduce it simply to the net earnings from direct operation or net earnings from carriage of freight and passenger? What is the amount?

A. $8,473,208.61.

Q. That is the amount which should be compared with the net earnings as given upon Table 4 of Ex. 53-Ward, stated at $8,464,493.40?

A. Yes, sir.

Q. And results in a difference of how much?

A. Well, it results in a difference of about $9,000. I find that, deducting these items of income which are not taken up in Mr. Ward's exhibit, leaves us $8,353,269.28. If we then add to this amount the amount of reductions which we have taken away and which Mr. Ward, of course, has not, of $129,852.53, and adjusting the taxes upon those two odd items of income, it brings out our result, to compare with Mr. Ward's, as $8,464,-

492.68. Probably in running over these calculations, I have made the difference of 62 cents which that differs from Mr. Ward's figures. I probably, in running them over hurriedly this way, have omitted some figure or reversed it, but it agrees with Mr. Ward's figures.

Q. Now, Mr. Hillman, I would like you to give those computations a little more in detail so that it will be very clear. In Ex. 53-Ward the net earnings are given at $8,464,493.40?

A. Yes, sir.

Q. There is no deduction for taxes in that amount?

A. No, sir.

Q. But there is not included in that amount anything except the direct earnings from the carriage of freight and passengers in the state of Minnesota?

A. That is all.

Q. Now, your summary on Table 13 is made after deducting taxes?

A. Yes, sir.

Q. But with the addition of the miscellaneous earnings, baggage earnings, mail earnings and certain income earnings, if I may so designate them; is that true?

A. Yes, sir.

Q. And the net earnings as given by you in that manner amount to $7,991,505?

A. Yes, sir.

Q. Will you please first deduct from that amount so found by you all of the earnings which I will characterize as miscellaneous earnings, so as to reduce your net earnings to those directly derived from the carriage of freight and passengers, and state the amount you so deduct and what the result is, those earnings being all shown on the prior tables of Ex. G?

A. From this $7,991,505, total earnings shown on Table 13, we deduct the net income as shown in Division B of Table 11 of $250,965.67, the total shown in Division B of Table 12 of $157,-

915.58, and the total shown in the miscellaneous income on Table 13 of $72,453.93, a total deduction of $481 335.18, which then leaves the net amount of revenue, $7,510,170.82.

Q. Now, will you please add to that revenue the total taxes which you have deducted in the various tables of Ex. G.

A. The total taxes which I have deducted in the various tables amount to $824,471.34; adding these to the total above mentioned gives us $8,334,642.16.

Q. Now, if to that you add the amount you spoke of,—what was that?

A. The reduction from—

Q. Explain that.

A. In Table No. 13 the reduction which would be caused by the introduction of the legislative rate on commodities has been also taken out; we therefore would have to add this to the item which we have just mentioned in order to obtain a comparison with Mr. Ward's figures. Adding this, it gives us $8,464,493.69. That is a difference of 29 cents from Mr. Ward's figures. I can't say exactly where it comes in.

Q. Now, in making your computations you have accepted the total earnings in Minnesota, have you not—

A. Yes, sir.

Q. —as shown upon the books of the Company. You have also accepted the total operating expenses in Minnesota?

A. Yes, sir.

Q. So that the total net earnings from the direct carriage of freight and passengers shown on Ex. 53-Ward and upon your computations should agree?

A. Yes, sir.

Q. There is a difference of how much between you there?

A. Well, in running this up roughly, in the way we have, there is a difference of 29 cents, but I think it is some error that I have overlooked, in reversing my figures, or something of that character.

Q. The first difference between you occurs in the division of freight and passenger?

A. Yes, sir.

Q. Ex. 53-Ward does not attempt to segregate the expenses between inter and intra business?

A. No, sir.

Mr. O'BRIEN: I think that is all.

Mr. BUTLER: We will need a little time to prepare for the cross-examination of this witness, and, in connection with the matters that are to be furnished us, we may want to look at the bases or the basic original sheets from which certain of those computations were made, to examine the method and the like. I suppose that will all be available to us.

WITNESS: I would say that I will keep those sheets, then, in the basement of the old capitol, where I am now, and not file them away until I hear from you in regard to that.

Mr. BUTLER: All right. I wish you would. We may call on you; and when I say "we," I mean the accountants. We would be glad to have you give us, as soon as you can, conveniently, the tables that we talked of yesterday.

Mr. O'BRIEN: There is certain information, a statement we wish to introduce in connection with Mr. Hillman's examination, and that is the operating expenses as divided between freight and passenger for two or three prior years. That division is not reported in the Company's report to the State, or in the reports of any of the companies to the State, and it is necessary to take that from the records of the Company, and there is an accountant now in the Great Northern offices taking that. We may want to add that statement when Mr. Hillman goes upon the stand, and with the exception of that his examination-in-chief is over.

A stipulation has been prepared by Mr. How, which is acceptable to us, as I am told by General Young, with reference to considering the testimony in all the cases in any one case, so far

as pertinent, and that stipulation will be signed, if it is acceptable to some of the other counsel, and filed with the Master.

Mr. BUTLER: To the rest of the defendants!

Mr. O'BRIEN: We can't control how many people you will consult.

Mr. How and Mr. Durment have been agreeing on a statement with reference to the foreclosure of the Northern Pacific in 1896, and that, also, when they agree upon it, will go on the record. As this is my last active day before your Honor, I would like to check up all of the fag-ends, and I think those are all, aren't they?

Attorney General YOUNG: There might be a word or two we would want to offer.

Mr. DURMENT: I think that is substantially all.

Mr. O'BRIEN: The only other thing, I am going on with my argument, and I would like to have a general understanding what course the future testimony is to be.

Adjourned until Tuesday, September 7th, at 10 o'clock a. m.

WITNESSES FOR COMPLAINANTS.

Doddridge, William B:

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Cross-examination 1153

Drew, John G:

Direct examination 1910

Complainants' Exhibit 57, Drew,

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Elwood, Lester B:

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Hogeland, Albert H.:

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" Exhibit 2, Hogeland 11

" Exhibit 3, Hogeland 15

" Exhibit 4, Hogeland 19

" Exhibit 5, Hogeland 21

" Exhibit 6, Hogeland 24

" Exhibit 7, Hogeland 56

" Exhibit 8, Hogeland 60

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Complainants' Exhibit 50, Hogeland 992

" Exhibit 51, Hogeland 994

" Exhibit 4, Hogeland, corrected. 1000

" Exhibit 52-A, Hogeland 1003

" Exhibit 52-B, Hogeland 1003

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" Ex. 7 Corrected, Hogeland..... 1616

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" Exhibit 56, Hogeland 1624

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" Exhibit 40, Maguire 800

" Exhibit 41, Maguire 804

" Exhibit 42, Maguire 811

" Exhibit 43, Maguire 813

" Exhibit 44, Maguire 819

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Complainants' Exhibit 45, Maguire 888

" Exhibit 46, Maguire 890

Re-cross examination 900

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Martin, George R.:

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Complainants' Exhibit 47, Martin 955

" Exhibit 48, Martin 987

" Exhibit 49, Martin 987

McPherson, Chester J.:

Direct examination 1172

Cross-examination 1191

Parker, Frederick N.:

Direct examination 620

Complainants' Exhibit 18, Parker 620

" Exhibit 19, Parker 622

" Exhibit 20, Parker 624

" Exhibit 21, Parker 625

" Exhibit 22, Parker 639
" Exhibit 23, Parker 639
" Exhibit 24, Parker 641
" Exhibit 25, Parker 641
" Exhibit 26, Parker 642
" Exhibit 27, Parker 643
" Exhibit 28, Parker 644
" Exhibit 29, Parker 649
" Exhibit 30, Parker 652
" Exhibit 31, Parker 653
" Exhibit 32, Parker 654
" Exhibit 33, Parker 658
" Exhibit 34, Parker 658

Cross-examination 662

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Complainants' Exhibit 35, Parker 733

Re-cross examination 738

Recalled 1133

Complainants' Exhibit 54, Parker 1133

Cross-examination 1138

Recalled 1735

Complainants' Exhibit 57, Parker 1735
" Exhibit 58, Parker 1736
" Exhibit 59, Parker 1737
" Exhibit 60, Parker 1737
" Exhibit 61, Parker 1739
" Exhibit 62, Parker 1739
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